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ORIGINAL ARTICLES.

DIPHTHERIA; ITS BACTERIAL DIAGNOSIS AND TREATMENT WITH THE ANTITOXIN 1

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In 1884. Loeffler announced the cause of diphtheria, but the medical world was little interested. Five years later Roux declared that the bacterial diagnosis of suspected cases was of the greatest importance, and Baginsky added further proof, and still the medical world heeded little. In 1894 Roux and Behring announced independently that they had discovered a cure for diphtheria, and in six months the medical world is aflame.

The scientific structure is complete: the etiology first, the bacterial diagnosis second, the prophylaxis and cure the capping-stones. The task before the medical profession is to see if the structure can stand. If it stands, it is the highest achievement of the new medical era, and a glorious and memorable tribute to scientific medicine.

I shall say nothing about the etiologic relation between the Loeffler bacillus and diphtheria. In the minds of all except the ultra-skeptical, the cause of the vast majority of cases of Bretonneau's diphtheria is the Loeffler bacillus; this fact was incontrovertibly demonstrated years ago, and need no longer form the basis of discussion. The questions that concern us to-night are far more practical and more important to us as physicians. They may be enumerated as follows:

- 1. What clinical significance has the bacterial investigation of throat-exudates?
 - 2. Can diphtheria be cured by the antitoxin?
 - 3. Can diphtheria be prevented by the antitoxin?
- 4. Is the antitoxin a specific remedy for diphtheria in the sense advocated by Behring, Aronson, and Roux?
- 1. The Clinical Significance of Bacterial Investigation of Throat-exudates. My conclusions are based on the bacterial investigations of 122 throat-cases. These studies were made in the laboratory of the Cincinnati Hospital by Dr. A. H. Freiberg and myself, with the generous assistance of Dr. Charles H. Castle. We are also indebted to the assistance of Superintendent Hendley, who first

suggested the investigation. Our methods were copied from those of the New York City Board of Health, and our way of distributing, collecting, and examining tubes was modelled after that of New York. Altogether we examined about 160 inoculated tubes. A majority of the local profession did not avail themselves of the opportunity for diagnosis that was offered. On the other hand, a large number realized the value of the bacterial examination and lent us their support and their interest. The vast majority of the tubes examined were sent to us in January, February, and March of this year.

In all cases we used Loeffler's serum for diagnostic purposes. This is by far the best medium with which to demonstrate the presence of the Loeffler bacillus. Investigators who use glycerin-agar. peptone-agar, or even plain blood-serum cannot expect reliable results.1 As a rule, we were able to make a diagnosis after the tubes had remained in the incubator from twelve to sixteen hours; and if the inoculation was at all successful, twenty-four hours sufficed in all cases. With some experience it is possible to distinguish diphtheria-colonies from cocci-colonies macroscopically, diphtheria-colonies of sixteen hours' duration looking gray and small as compared with the larger and whiter cocci-colonies; of course, it is best in all cases to resort to microscopic examination with alkaline methylene-blue. Early in January we were puzzled occasionally by the appearance in the cultures of short, thick bacilli, and very long, slender, evenly staining ones. We soon found out, however, that these colonies developed in imperfectly sterilized tubes, and later ruled out all doubt by sterilizing the serum more perfectly. After this we were never seriously puzzled to know whether a tube contained Loeffler bacilli or not. After the statistical report of the New York Board of Health, covering 5611 cases, it might seem superfluous for us to report our series of 122. Yet even so small a series is full of interest and instruction.

The Loeffler bacillus was present in forty-seven cases; of these, eight, or 17 per cent., died. The bacillus was absent from seventy-five cases; of these, three (4 per cent.) died. In one of these fatal cases the examination was made after the disease had existed two

¹ A paper read before the Cincinnati Academy of Medicine, June 3, 1895.

¹ C. Fraenkel: Die Aetiologische Bedeutung des Loeffler'sche Bacillus (Deutsche med. Woch., 1895, No. 11). Also Silberschmid: Münchener med. Woch., Feb. 26, 1895. Compare also the defective results obtained by Vierordt (Deutsche med. Woch., 1895, No. 11, p. 169), by use of plate-cultures of glycerin-agar.

weeks, and proved negative; in another, on the eighth day, two days before death, and it was also negative. Everyone familiar with the subject knows, and the New York report has sufficiently emphasized the fact, that examinations made quite late in the disease are not reliable, and we may properly exclude these two last-mentioned cases from our consideration. Thus, out of seventy-three cases in which no Loeffler bacilli were found under proper conditions of examination, only one proved fatal, or nearly 11/3 per cent., while 17 per cent. of those died in whom the Loeffler bacillus was found. This teaches one important lesson, viz., the presence of the Loeffler bacillus in the throat adds very seriously to the gravity of our prognosis.

But mortality is not the only test of severity. A few weeks ago I sent postal cards to the physicians who had had cases examined, asking for clinical data, laving special stress upon the duration of the disease, the presence of alarming symptoms, the occurrence of sequelæ and complications, and the condition of the heart. I received complete data concerning forty-one cases, in which the Loeffler bacillus had been found; in eighteen of these (just 40 per cent.) the physicians reported the patients as dangerously sick, in many cases from weakness of the heart; of the non-diphtheric cases, aside from the three that died, only one patient was reported as having been in danger, and that one from laryngitis; i. e., seventy-one out of seventy-five cases from which the Loeffler bacillus was absent ran a mild course without arousing any alarm.

Can anything be more convincing than that the bacillary sore-throat is a very different disease from the non-bacillary sore-throat? So much for gross figures. I think, however, that examination into the details of several series of cases will prove still more striking and show still more forcibly the value of bacterial diagnosis.

On January 5th a tube was sent with the diagnosis of tonsillitis. The physician in charge said that there was no suspicion of diphtheria, and the patient was not isolated. Two days later the child's brother contracted an angina. Bacterial examination of the first case revealed the presence of many cocci and few Loeffler bacilli; the second throat contained almost a pure culture of Loeffler bacilli. Both children were markedly prostrated, out of all proportion to the apparent throat-lesion; the first child was weak for a month after recovery; the second child was in great danger from heart-failure for a week, and suffered later from paralysis of the pharyngeal and ocular muscles.

On February 14th a tube was sent with the diag-nosis of severe tonsillitis. Examination revealed almost a pure culture of Loeffler bacilli. The case ran a very mild and favorable course for four days: on the fifth the patient, sixteen years old, died very

suddenly from heart-failure.

In January a tube was sent with the diagnosis of non-diphtheric croup. No membranes were visible in the throat, and the temperature was normal. Intubation was performed. Bacterial examination revealed the Loeffler bacillus; stenosis returned, tracheotomy was performed, large tough membranes were found occluding the trachea, and the child died on the ninth day, after extension of the membrane to the lungs.

In March a tube was sent, and Loeffler bacilli were found in abundance. The first physician in attendance had diagnosticated catarrhal laryngitis, and had let the case run on from bad to worse for several days. He was then discharged. The second physician immediately had the case examined microscopically, and intubation was performed, but

death followed after sixteen hours.

In all of these cases early bacterial examination would have thrown much light on the diagnosis and prognosis, and lives might have been saved. Other similar cases might be cited, but those detailed are sufficiently striking to show the great value to the clinician of bacterial investigation.

A few words in regard to the fatal cases in which no Loeffler bacilli were found. One was in a child. fourteen months old, that suffered from purulent coryza for two weeks, laryngeal stenosis and profound sepsis being present on its admission to the hospital. Only cocci were found after a minute examination. The antitoxin was used, and the child revived considerably. Cultures were made at intervals of two days, and no Loeffler bacilli were ever found. The child died seven days after admission to the hospital.

CASE No. II occurred in a family in which several members suffered from true Loeffler diphtheria. All the cases were malignant, and this one fatal, although no Loeffler bacilli were found. Only one culture was made, and I am inclined to believe that I must have made an imperfect examination, as Loeffler bacilli were found in other members of the

same family.

CASE No. III was the one referred to. A sixmonths-old baby suffered with large extensive membranes in the throat; no culture was made until the eighth day, two days before the fatal issue. I am not informed as to whether the cause of death was croup or sepsis. There is no doubt that some cases of diphtheria occur in which Loeffler bacilli play no rôle. Fischer reports a case of septic diphtheria in which cultures made daily for seven consecutive days failed to discover the Loeffler bacillus, and even a post-mortem culture revealed nothing but cocci. Fraenkel² admits also that there is such a thing as coccus-diphtheria, although its occurrence is quite rare. For the present we must simply shrug our

¹ N. Y. Med. Rec., April 6, 1895, p. 420.

³ Loc. cit.

shoulders at these rare and unfortunate cases, and leave their explanation to further investigation.

I approach with some diffidence the subject of the therapeutic effects of the antitoxin. Veterans in medicine have tried it in a large series of cases, and have been reticent as regards the scientific value of their results. Rapidly, however, a large literature on the subject is accumulating, and it behooves us at least to keep in touch with the advanced thought. No one, I think, can follow what has been written on the subject during the past six months and regard it with indifference. Certainly no one can read the calm judicial testimony of medical experts in all parts of the world that classes of cases that formerly died do now recover, that a smaller percentage of cases die than formerly, and that severe cases now recover without need of operative interference, without wishing in his heart that such testimony is true. When men of world-wide reputation range themselves one after the other on the side of the new remedy we are compelled, with all our natural skepticism, to be encouraged. The names of Virchow, Escherich, Ganghofner, Ranke, Vierordt, all on one side, are strong testimony of themselves. In February of this year Foster' collected statistics of 2740 cases treated with antitoxin; of these 18.5 per cent. died; also of 4445 cases treated without antitoxin; of these 45 per cent. died.

I shall not load down your minds with bald statistics. Nothing is more tiresome or unprofitable. Since January of this year I have had occasion to observe closely seventeen cases of diphtheria. During February and March Dr. Forchheimer very generously placed his diphtheric patients at the City Hospital under my charge, and I am greatly indebted to him for the cases treated in that institution.

In January two brothers were admitted to the hospital suffering from a very severe form of diphtheria. The younger brother, four years old, had been sick eight days and had a very intense nephritis, with weak heart and complete anorexia. Many Loeffler bacilli were present; two days later they were absent from the throat. No antitoxin was used, owing to the condition of the kidneys and the advanced stage of the disease.2 The nephritis grew worse daily, notwithstanding active treatment, and the child died twelve days after admission. The older brother, aged eight years, had contracted the disease three days before admission. At first he presented indications of only a moderately severe pharyngeal diphtheria and received tonic treatment. Soon, however, he developed a marked nephritis, like his brother, and five days after admission had severe symptoms of laryngeal stenosis; his temperature rose to 103.8°, and his condition became very critical. Ten c.cm.

1 Foster: THE MEDICAL NEWS, Philadelphia, Feb. 2, 1895.

of the Roux antitoxin were injected in the interscapular space. During the next twenty-four hours the temperature fell steadily, the pulse-rate and frequency of respiration remained about the same, and the dyspnea was markedly moderated, recurring only for short intervals. The further course was favorable, the albuminuria lasted two weeks, Loeffler bacilli persisted only two days after the injection, and the boy made a slow but complete recovery. This, my first case, made a very favorable impression on me.

A week later a child aged fourteen months was brought to the hospital in an apparently moribund condition; the pulse was scarcely palpable; opisthotonos was marked, and the fetid odor from the throat scarcely endurable. The mother at first refused treatment, saying she did not wish the child uselessly tormented, and death seemed a ques-tion of only a few hours. We injected, however, 5 c.cm. of Behring's antitoxin, No. 2, and were much astonished to see in the course of twelve hours a remarkable change in the child's condition. It now sat up in bed and took nourishment greedily, but during the course of the day relapsed into its former condition. Injections of the antitoxin were repeated twice, both times causing a very marked and unmistakable change for the better. On the fourth day we were inclined to make a favorable prognosis; the heart, however, became very weak, the respirations rapid, fetid diarrhea set in, and the child died with high fever on the seventh day. Repeated examinations in this case failed to reveal Loeffler bacilli. Here was a case ending fatally, which, nevertheless, afforded to the few of us who witnessed it the greatest encouragement regarding the value of the antitoxin.

A few days later five children were placed under my charge at once. Two sisters, Mary and Gertrude E., aged respectively six and nine years, had extensive exudations with almost pure cultures of Loeffer bacilli, and yet the local and constitutional symptoms were so slight that no treatment was instituted, except rest in bed and light diet. Both cases developed albuminuria of moderate degree, which persisted sixteen days.

Three other sisters, aged respectively four months, four years, and six years, all had extensive exudations in which the Loeffler bacillus was demonstrated. One case ran so favorable a course that no antitoxin was used; on the second day the infant's temperature rose to 103 8° and the membranes extended. Five c.cm. of Behring's No. 2 were injected at 10 P.M., and the change for the better began in a few hours, and after that the temperature remained below 100° F., and no threatening symptoms recurred. The oldest sister received two injections of the antitoxin, each 5 c.cm., which seemed to affect the course of the disease very favorably. These children also had albuminuria lasting two weeks, the one in which no antitoxin had been used no less than the others.

I shall not detail all the cases treated. One child, aged ten years, received 10 c.cm. of the antitoxin for laryngeal obstruction present on admission, and

² Neither of these conditions, however, is a contraindication against the use of antitoxin.

died four hours afterward from sudden increase of stenosis. All the other cases recovered, some with and some without the antitoxin. Altogether, nine cases received the antitoxin; two of these died, as already recited. Of the seventeen cases observed, three died, representing a mortality of 17.6 per cent.

The mortality in the city during January, February, and March was 26 per cent. I do not lay any stress on the results obtained by us in the hospital. The number of cases is too small to be convincing. All who saw the cases treated with the antitoxin felt sure that we had in our possession a wonderful remedy. This subjective feeling of trust in the value of the antitoxin is almost universal among those who have tried it in any number of cases, and speaks more in favor of the remedy than the published figures. I shall reserve for another occasion a critical estimate of the antitoxin-literature thus far published.

Of some things I am convinced:

1. That the antitoxin does undoubtedly affect favorably a large number of diphtheria-cases.

2. That it is the duty of physicians to use the antitoxin early in every case of severe diphtheria occurring in children.

3. That the mortality from diphtheria is destined to be largely diminished by prompt use of the antitoxin.

I cannot urge upon physicians too strongly to use the antitoxin early in their cases of diphtheria. The testimony is universal that the earlier the remedy is used the more certain is its curative effect. In Foster's table, of the 44 cases injected on the first day none died; of 106 cases injected on the second day 3 died. Later the mortality ranged from 10 per cent. to 40 per cent. In Ganghofner's table,1 of 68 cases treated during the first three days 5 died; of 42 cases treated after the third day 10 died. In Kossel's well-known table, of 82 cases treated during the first four days only 2 died; of 35 cases treated after the fourth day 11 died. To wait for sepsis or laryngeal stenosis before using the antitoxin is folly. The chances of success are greater the sooner the remedy is used. All observers agree that when the antitoxin is used in pharyngeal diphtheria the larynx is not thereafter affected.

Bad effects from the antitoxin we did not see, although about twenty injections were made. I prefer the fleshy part of the thigh as the seat of injection. Pain was remarkably slight or wholly absent, and absorption took place in a very few minutes. One child had a slight erythema after the fifth day.

Can we prevent diphtheria with the antitoxin? The published reports of prophylactic injections are not very encouraging. As the antitoxin does

1 Ganghofner: Prag. med. Woch., 1895, Nos. 1, 2, 3.

not prevent the growth of the bacillus, it is hard to understand how it can prevent diphtheria. It has been noted that relapses after cure by the antitoxin are not infrequent; this itself is a strong argument against belief in any prophylactic virtue of the new medicine. As a matter of fact, diphtheria is not a highly contagious disease. Henoch says that in seventeen consecutive years only one attendant caught diphtheria in his diphtheria-pavilion. It is, therefore, a very difficult question to decide, especially as diphtheria occurs not infrequently in those prophylactically injected. Brewer injected two children for the purpose of prophylaxis. One of them developed a membrane the next day, the other in six days after inoculation. Richter made 72 preventive injections, and 7 of the persons were nevertheless affected. Sonnenburg⁸ made 16 injections; diphtheria occurred in 2 of the cases. Hager immunized 35 children and 3 took sick. Brunstein⁵ immunized 28 cases and 1 took sick. Pearl⁶ immunized 67 persons between the ages of four months and fifteen years; 13 contracted diphtheria and 2 died.

Summing up these reports we find that of 220 persons injected, 28 (12.7 per cent.) were nevertheless affected. This is certainly not a good showing. If one out of eight people had smallpox, Jenner's name would not be celebrated as it is today, and smallpox is far more contagious than diphtheria. On the whole, we are compelled to say that evidence of the value of prophylactic injections of the antitoxin is still wanting.

Is the antitoxin a specific against diphtheria in the sense advocated by Behring and Roux? By the question we mean, does the antitoxin neutralize the effects of the disease in the system and thereby insure recovery? In one thing all authors agree, i.e., that the antitoxin does not kill the Loeffler bacillus or prevent its further development. In several of our hospital-cases the bacilli persisted in the throat for days and even weeks, notwithstanding the use of the antitoxin. Other observers have demonstrated that the bacilli not only persist in the throat but also retain their virulence for guinea-pigs.7 Therefore the antitoxin cannot be called a specific for diphtheria in the sense that quinin is a specific for malaria. It certainly does not destroy the cause of the disease.

Mercury is called a specific for syphilis without

¹ Brewer: THE MEDICAL NEWS, Philadelphia, Jan. 19, 1895.

Richter: Deutsche med. Woch., 1895, No. 7.1

⁸ Sonnenburg: Deutsche med. Woch., 1894, No. 50.

⁴ Hager: Therap. Monatsh., February, 1895, p. 91.

⁵ Brunstein: Wiener klin. Woch., 1895, No. 3.

⁶ Pearl: Ibid.

⁷ Virulence for guinea-pigs should by no means be made the test for human beings, as it is in no sense conclusive. Each species of animal is a law only unto itself.

presumably destroying the cause of syphilis; in some way it neutralizes for the time being the syphilitic virus. It is difficult to say just to what extent this is true of the antitoxin of diphtheria. The children seem certainly to improve under its use, as every eye-witness can testify. And yet there is much evidence to show that the poison is not neutralized. Diphtheric nephritis and post-diphtheric paralysis are commonly assumed to be the result of the action of the diphtheric virus on the kidneys and nervous system respectively. Certainly the poison that leads to nephritis and paralysis is not neutralized by the antitoxin; so in the sense of mercury for syphilis, we can scarcely speak of the antitoxin as a specific for diphtheria. In a word, all our theorizing about the antitoxin is as yet without avail. The clinical fact is plain that a larger percentage of cases recover with it than ever did under any other form of treatment. This is the one practical fact. testified to almost universally, that makes the use of the antitoxin a matter of duty in cases of diphtheria in children.

And now a few words regarding the relations of the city to the question of the bacterial diagnosis of diphtheria. Modern custom has relegated to the city officials all over the world the task of dealing with the health-questions of the respective cities. The more advanced cities in Europe and America have already established disinfecting bureaux and stations for the destruction or disinfection of contagious material. Cincinnati has done little that is efficient in that regard. New York was the first city in the world to make adequate arrangements for the control of diphtheria and tuberculosis by means of bacteriologic examinations. The fact has been made perfectly plain that only by repeated bacterial examinations of the throat can we test whether a case of diphtheria has became free from infecting power or not. It is known that Loeffler bacilli remain in the throats of diphtheria-convalescents for many days and even weeks. One series of examinations at the City Hospital revealed the presence of the germ up to the fortieth day of convalescence; and repeatedly have we found the germ at the end of the third week. Nothing is more evident than that our present mode of placarding houses is not only unjust to the occupants, but also inadequate for public safety; many a family is seriously discommoded, its children kept from the schools-because the physician assumed a simple angina to be diphtheric. It has been my fortune more than once during the past five months to see cases which other physicians had called diphtheria, and which proved to be nondiphtheric. Patients have a right to demand bacteriologic examination before submitting to weeks of isolation, often with considerable detriment to business and always to convenience and comfort. The ipse dixit of the attending physician is by no

means sufficient, be he who he may. On the other hand, placards are removed from houses four days after the physician signs a certificate that the patient is well, no matter whether the patient still be a source of public danger or not. The only possible control is the bacterial control—and it is now a matter of public necessity that every municipal health-department should be under the management of a professional and expert bacteriologist, with assistants and clerks who should devote all their time to the work in hand.

Cincinnati has recently applied salve to its own conscience by providing for the expenditure of \$500 to pay for apparatus, office-work, and the salary of the city bacteriologist; while everyone knows that that sum is ridiculously inadequate to supply what is needed. Other cities have outstripped us. Brooklyn has adopted the same system as New York. In Boston the work has been done for the past seven months. In November and December of 1804 1002 cultures were examined by the city bacteriologist, who was relieved of all other work; in January, 1895, 842 cultures were examined. Boston has also provided for the manufacture of antitoxin, and has seven horses under treatment. The Philadelphia Board of Health has appropriated \$15,000 to establish a bacteriologic bureau. In St. Louis the City Board of Health has for some months been examining for tuberclebacilli and Loeffler bacilli, having established eighteen stations in the city for the receiving of specimens. New Orleans has for more than a year had a fully equipped and active bacteriologic bureau. Cleveland is supplied with antitoxin from the Western Reserve University. Buffalo has two professional bacteriologists who devote all their time to the work. Tubes for diphtheria-diagnosis are distributed to the thirteen police-stations of the city, and examinations are also made for tuberculosis. The tap-water and reservoir-water are examined daily; the mik and ice at proper intervals. Detroit has begun the work of bacterial diagnosis, and Indianapolis will fall into line this autumn.

COMMISSIONS TO PHYSICIANS UPON THE SALE OF ORTHOPEDIC APPARATUS, FROM THE MANUFACTURER'S STANDPOINT.

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In the *Philadelphia Polyclinic* for September, 1894, I published a paper entitled "Can Physicians Honorably Accept Commissions from Orthopedic Instrument-makers?" in which I presented the subject from the standpoint of the physician. The position taken in that article is concisely stated in

the closing paragraph, in which I said: "If it is honest so to defraud the patients submitted confidingly to the care of the physician, it is just as right to ignore totally every point in the Code of Ethics that indicates to the contrary. If it is dishonest, and what physician can dispute it? are we not obliged, by the very words and spirit of the Code, so to proclaim it?"

A further consideration of the subject demonstrated that there is another standpoint from which the subject should be considered, namely, from that of the manufacturer or the business-man. I therefore sent a copy of my paper referred to, to a large number of manufacturers of orthopedic apparatus, artificial limbs, and trusses, with the request that they favor me with their views and opinions candidly expressed. The replies, from which extracts are used, form the basis of this article and are of great value in showing that too often physicians permit themselves to be classed, as Dr. Solomon Solis-Cohen has tersely denominated. "sales-agents."

Illustrative of this I quote from the Winkley Artificial Limb Co.:

"We receive almost daily several letters from physicians, in apparently good standing, asking us how much commission we will pay them if they will send us a patient or an order for an artificial leg, and that they would like to have the limb, if purchased, either sent directly to them with one bill in full to show the patient, and one to them personally, less the commission; or that the limb be sent directly to the patient for the full amount and the commission sent to them. We recently received a letter from a surgeon having a large practice which read as follows: 'I now have five patients with amputated legs who are either ready or soon will be to wear artificial legs, I am going to have them place their orders with the firm that will pay me personally the largest commission. I do not care where they purchase their limbs so there is something in it for me. If you will pay me a larger commission than other firms, I will have them each and all place their orders with you.' We simply answered the latter by stating that we allowed no commission whatever, etc."

If this were a single instance, it would properly be considered as coming from some contemptible man besmirching the profession, the dignity of which it was his duty to uphold, and consequently beneath notice. In a number of replies from manufacturers, however, it is stated that they have had numerous requests from physicians for commissions; therefore the whole matter appears to come back to the starting-point, that in reality it is the physicians that make these commissions necessary. This view is substantiated by Sharp & Smith, who state:

"Would say if commissions are paid to them it is because it is agreeable to the physician who controls the order. We believe the whole matter rests with the physician." George R. Fuller, of Rochester, New York, says:

"The custom amongst the profession of anticipating, accepting, and, I might say, exacting a commission on artificial limbs, trusses, etc., as a rightful legitimate fee, has become nearly universal, and I am glad to know that there is one of them who has the courage to brand the custom as a fraudulent one, an outrageous breach of the faith and confidence extended by the patient, and a violation of the Code."

The object of this paper is to reach those physicians who may not fully comprehend the importance of upholding the dignity of their profession, and who are acting as "sales-agents" in obtaining money under false pretence, and exposing the profession to just censure.

Mr. Frederick M. Bush says:

"I would divide physicians into three classes in the matter of orthopedics. First, those who know what they wish to do and how to do it, including the general mechanical design. Second, those who know they want to do, but don't know how to do it, and leave the designing of the appliance to the instrument-maker. Third, those who don't know anything about it. For the first class, and the smallest, it is sufficient that the instrument-maker knows enough to follow the measurements and directions given, with perhaps an occasional suggestion from him on points strictly of mechanical detail. With such a physician it is ordinarily unnecessary for the instrument-maker to see the case; con-sequently all the business is transacted through the physician and the appliance is charged directly to him. Now his bills with his instrument-maker are probably Now his bills with his instrument hard are probably, settled monthly, and if his patients pay on the same terms, well and good. But suppose he is not always so fortunate, and some of his accounts run three, six, twelve months, and some he never gets. Physicians bills are not always collected; where does he get the interest or make up the deficiency? Must he lose it out of his pocket because he has been unfortunate enough to have to advance cash? Is it not better and more equitable that he charge sufficiently more for such appliances to enable him to have a sort of sinking-fund from which he can reimburse himself for losses so caused? It seems so to me, and where is the need of secrecy? Business is business the world over, a church or a doc-tor's office, a theater or a dry-goods house should all be run on a business basis, and, though the superficial forms of advertising and dispensing commodities may differ, the same sound principles underlie success in any case.

"But does a solid conservative business concern take risks without hope of remuneration? Assuredly, no. Somebody has to pay; and the pay is proportional to the risk; and there is no thought of concealment.

"The second class of physicians should be governed

"The second class of physicians should be governed by the rules which govern the first and third class. The more ability the physician requires of the instrument-maker and the less financial risk that is run, the less pay should the physician expect and the more should the instrument-maker get out of the work. The third class is not very hard to dispose of, because if they don't know anything, they can't do anything, and if they can't do anything they are not worth anything. Of course, a good many of the second class and all the third class had better not fool with orthopedics."

Of the duties of physicians to each other and the profession at large, Art. I ("Duties for the Support of Professional Character") of the Code of Medical Ethics says:

^{1 &}quot;Shall Physicians Become Sales-agents for Patent Medicines?" by Solomon Solis-Cohen, M.D. Read before the Philadelphia County Medical Society, April 27, 1892.

"Every individual, on entering the profession, as he becomes thereby entitled to all its privileges and immunities, incurs an obligation to exert his best abilities to maintain its dignity and honor, to exalt its standing, and to extend the bounds of its usefulness."

Art. II.

"There is no profession from the members of which greater purity of character and a higher standard of moral excellence are required than the medical; and to attain such eminence it is a duty every physician owes alike to his profession and to his patient. It is due to the latter, as without it he cannot command their respect and confidence; and to both, because no scientific attainments can compensate for the want of correct moral principles."

The following expressions of opinion condemning commissions are worthy of consideration:

"We would be glad to see all commissions abolished, as it opens the door to many methods which are rank injustice to patient, merchant, and doctor."—C. W. White & Co.

"We have never under any circumstances allowed a commission on apparatus or appliances to anybody, in a business career of over fifty years, although we have had numerous requests to do so, and have likely lost a number of cases in consequence."—J. H. GEMRIG &

"I wish to inform you that we are heartily in sympathy with the stand you have taken concerning this subject. We believe that the practice, prevalent as it is, of paying and receiving commissions, either from a business or professional standpoint, is radically wrong."—THE WINKLEY ARTIFICIAL LIMB CO.

"A physician has a right to be paid for his services, a lawyer his fee, a real-estate agent his percentage, a merchant for his ware. But when a physician is paid for his services and then demands a commission for sending his patient to an instrument-maker for an appliance, to such Dr. Solomon Solis-Cohen's term 'sales-agent' is properly applied. I have been struggling against it for years and probably lost the trade of numerous doctors on this account."—WILLIAM AUTEN-

"We have read your pamphlet with interest and think the salient points well taken,"—J. C. SCHNOTER &

"It gives us great pleasure to indorse your views in regard to physicians taking commissions from instrument-makers. The correction of this abuse will enable all interested to retain their self-respect."—D, W, KOLBE

& Son,

"I have never conducted my business on any percentage plan, and, unless I am requested by the physician, never pay him any. I have met with not a few who have asked for 'their' percentage, and have paid it rather than lose their influence."—A. Gustav Gefvert.

"I enjoy the patronage of many a doctor who desires the welfare of his patient only, but also others who will not advise the use of my truss without expecting a commission. What will a man in my position do? Say no? I cannot well afford to give a commission, but losing the sale is out of the question on account of the influence felt afterward."—H. KLINGER.

felt afterward."—H. KLINGER.

"We do not offer commissions to physicians; however, when demanded, we are obliged to comply. When he orders an article and it is supplied by us as a piece of merchandise, it is sold as such; but when we must fit it, then in a business sense it is not mercantile to underhandedly offer or give a share of the profit."—ANONY-MOUS.

"It seems to us that surgical instrument-makers are about the last ones whose opinions toward the rest of the world are of any account on this subject. No one believes more fully than we in the old saying, 'Let him who is guiltless throw the first stone.' Imperfection pervades mankind to such an extent that it is not reasonable to require absolute, simple purity in any one respect. Moreover, that which disposes of the whole subject, in our minds, is that the medical profession, as a whole, occupies in the social body a position so respected that it behooves itself only through its properly constituted bodies to lay down each and every feature of its Code of Ethics."—JOHN REYNDERS & Co.

"A few years ago I reduced the prices of artificial limbs about one-third and made an effort to keep the

"A few years ago I reduced the prices of artificial limbs about one-third and made an effort to keep the prices unvarying, without reduction or commission to anyone. I soon found that in order to get any business from the profession it would be necessary to allow a discount, and I have since made a practice of discounting to per cent. from the quoted prices on artificial legs. Taking a financial view of it, I am satisfied that it was a mistake to reduce the prices. I believe that I could more easily sell an artificial leg through the average practitioner at \$100 with a 25 per cent, discount than I could by placing the advertised price at \$60 or \$70 with a 10 per cent, discount, with every assurance that the construction of the limbs would be the same.

"It is unquestionably true, however, that many physicians give the patients the benefit of the discount. Knowing that it is the rule for physicians to expect a commission or discount from the published prices of their products, it is perfectly natural that instrument-makers should make provision for it. These abuses are the result of the growing selfishness and corruption of the age, which, to a greater or lesser degree, enter into all classes and professions, and it will undoubtedly continue to increase so long as the possession of wealth is the chief ambition of mankind,"—George R. Fuller.

"In some instances where physicians claimed that they had been allowed concessions of this nature by other instrument-manufacturers, I granted them. To such an alarming extent has the practice been carried that patrons have become aware of it (as they justly should) and have asked me to give them the benefit of the physician's commission. Requests of this nature, on many occasions, have put the physician, as well as myself, in a questionable position. Considered either from a professional or a commercial standpoint, the practice, I am convinced, is a most reprehensible one, and an immediate, earnest, honest effort should be made for its abolishment."—WILLIAM SNOWDEN.

Only three manufacturers have frankly and candidly written advocating the giving and receiving of commissions, and they do it by classing physicians, drug-houses, instrument-houses, and commission-houses as their profitable sales agents.

"The legitimacy of authorizing drug-houses, instrument-houses, and commission-houses to obtain orders upon commissions has always been recognized and has never been placed within the pale of criticism. It has proved to be the most economical way by which articles of great benefit, service, and necessity can be made obtainable, with the least inconvenience to the parties needing them. Commissions are granted as compensation for time and labor expended in taking measurements, attending to the details of ordering goods, receiving them when finished, and properly delivering them to the parties for whom they are intended, and not as a bribe for favoritism, as I construe your paper to imply. I cannot see why physicians should not have the same privileges and obtain the same compensation if they perform the same services, especially as the commissions allowed do not affect the cost of purchase to the wearer. There is one strong argument in favor of granting com-

missions to physicians which should not be lost sight of, that is, that a very large proportion of physicians who receive commissions on orders for artificial limbs turn those commissions over to their patients, and thus place the cost of an artificial limb at a lower price than the patient would be able to buy if he bought directly from the manufacturer or if he passed the order through a commission-house, druggist, or shopkeeper."—A. A.

"After duly considering the subject I will give you my candid opinion in the matter, 'Can Physicians Honorably Accept Commissions from the Manufacturers to Whom They Send Their Patients?' They can do so in many cases without the patients paying one cent more for the article than they would if they purchased it themselves. My opinion being based upon the following facts: The manufacturer produces an article which he finds he can produce at a certain price; to that he must add at least twenty-five per cent. so that he will have a profit, as it will cost him at least ten to fifteen per cent. to sell the article by agents, advertising, etc. Now we have the wholesale price. To give the retailer a profit there must be added another twenty-five per cent. on the wholesale price so that he can live. Now this twenty-five per cent. that is put on to protect the retailer is generally given in part, or the whole of it, to such people that can bring you trade, which people are generally considered by the manufacturer as his agents."

—CHARLES A. BICKEL.

"Being a member of the noblest profession in the world, you are aware of the fact that, though physicians frequently go to considerable trouble in getting an apparatus made which will suit the case, they quite often receive but little if any remuneration for their services. This being the case, we believe that they are entitled to a commission, providing the patient or his relatives can afford to pay a good price for the apparatus. Should the patient and his relatives, however, belong to that class who are obliged to work hard for their daily bread, we believe that it is the duty of the attending physician to notify the manufacturer to that effect, renounce his commission, and leave the whole matter to the judgment of the manufacturer."—THE R. HYDE CO.

The relative position of physician and manufacturer is very difficult to define either from a professional or manufacturer's standpoint, for the reason that comparatively few physicians are sufficiently familiar with mechanics to order definitely an apparatus, or adjust it after it is made. Therefore the orthopedic-apparatus maker cannot be classed exactly like the apothecary or manufacturer of pharmaceutic preparations—nor can his services be entirely dispensed with by those physicians who even dispense their own prescriptions.

For instance, a physician having a patient requiring some form of apparatus, is very likely to send the patient to the manufacturer with a note saying, in effect: "I know my patient requires an apparatus of some kind, and I will ask you to apply what you think will accomplish the desired purpose." The physician's act in such a case would be to make the instrument-maker prescribe for the patient, i.e., to practise medicine, but without a licence to do so. The instrument-maker, imbued with the idea that the physician does not wish to direct or prescribe mechanical appliances, is ready to assume full charge of the patients sent to him

by a physician or coming to him through some other patient.

Many patients remain under the care of the instrument-maker for periods of months and years, never once having their physician see them to decide whether the mechanical requirements of the case are being properly fulfilled. Instrument-makers have told me that in cases, for instance, of rachitic bow-legs, when a correcting apparatus was applied and the patient sent back to the physician for approval, that he has told the patient to go to the instrument-maker if the apparatus got out of order. I have known cases of this kind to wear an apparatus for a year without any adjustment whatever, and yet is it not natural to suppose the growing child would change and improvement in the deformity would demand frequent adjustment which should be directed by the physician?

Many truss-makers tell me that they consider it impossible for physicians accurately to prescribe or adjust a truss because they do not carry a large stock from which to select. If this is true, it is difficult to understand how a physician can accurately adjust a splint for a fracture or a pessary for a deflected uterus. Again, there are instrument-makers who deprecate this assumption of authority. Mr. Frederick M. Bush, for instance, says:

"As to the instrument-maker turning doctor: He has no more right to do so than has the doctor to become instrument-maker. The functions of the two are totally different, and while the one may have ability of as high an order as the other, their educations so differ that they cannot become one and yet retain highest efficiency in either sphere. The physician should know the mechanical theory and the therapeutic details; the instrument-maker should know the therapeutic theory and the mechanical details. The physician takes the responsibility of prescribing the right thing; the mechanic takes the responsibility of correctly making the physician's prescription. A man brought in a steam whistle to have repaired and at the same time said he wanted me to make a brace for his child. He would not go to a physician, but wanted a brace after his own ideas plus what I might suggest. All right, said I, I am not repairing many whistles nowadays, but I will fix your whistle and make your brace, but when they are both done I don't care whether you put the whistle on the engine and the brace on the child, or whether you put the brace on the engine and the whistle on the child. I wash my hands of the whole matter. I don't want to play with things I don't understand, and it seems to me no one else should do so simply for the money there is in it. Outside of the honor and morality of the thing, it looks to me like very poor and shortsighted business, though I am well aware that the general public is fearfully gullible; however, 'you can fool some of the people all the time, and all the people some of the time, but you can't fool all the people all the time.' And when the instrument-makers try to do that, it results in their being found out by the intelligent public and winning the distrust and dislike of the decent physicians who would otherwise be their patrons."

The proper relationship of patient and physician is clearly defined in reference to all other therapeutic measures, and, by inference, also in reference

to mechanical appliances, both by the Code of Medical Ethics and by the medical laws of the various States. Sec. 15 of the medical laws of Pennsylvania states:

"Nothing in this act shall be construed to interfere with the manufacture of artificial eyes, limbs, or orthopedical instruments or trusses of any kind, or fitting such instruments on persons in need thereof."

The three conspicuous features of this clause are, first, that the medical laws of this State must not interfere with the manufacture of these instruments referred to. Second, there shall be no interference with the fitting of these appliances, presumably by the maker or seller. The third feature describes the class of people for whom the appliances are made and upon whom they are to be fitted without interference "on persons in need thereof.

The question as to who is to decide what persons are in need of appliances is necessarily not discussed, for the clause referred to is part of an act, a part of the title of which says "to provide for the examination and licensing of practitioners of medicine and surgery, to further regulate the practice of medicine and surgery."

For example, Sec. 9 of the laws of Arkansas says:

"That any persons who shall prescribe or administer medicine for or shall in any way treat diseases or wounds for pay shall be deemed physicians and surgeons under this act, and therefore entitled to all the privileges and penalties which are defined by the law."

With different wording, but the same idea, the same condition exists in Arizona, California, Colorado, Delaware, District of Columbia, Illinois, Iowa, Minnesota, Missouri, Montana, Nebraska, New Jersey, New Mexico, New York, North Dakota, Oklahoma, Oregon, Pennsylvania, South Dakota, Utah, Vermont, Washington, West Virginia.

Georgia is especially explicit in Sec. 2 of its medical laws:

"Be it further enacted, that for the purpose of this act the words 'practise medicine' shall mean to suggest, recommend, prescribe, or direct for the use of any person any drug, medicine, appliance, apparatus, or other agency, whether material or not material for the cure, relief, or palliation of any ailment or disease of the mind or body, or for the cure or relief of any wound, fracture, bodily injury, or other deformity, after having received or with the intent of receiving therefor, either directly or indirectly, any bonus, gift, or compensation."

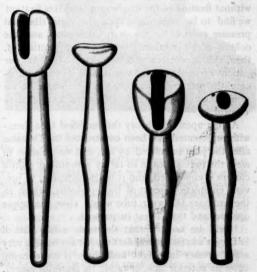
If these extracts from the medical laws of twentyfive States mean anything, they mean that when a patient goes confidingly to a physician it is for the reason that the patient believes his physician to be of that high order that everyone esteems and honors. He naturally believes that in the event of his physician not feeling sufficient confidence in his own knowledge, experience, or ability, he will consult with some other physician, and that he will then direct, prescribe, or order such form of remedial measures as will be of benefit in the patient's case. He should not believe, nor should he have cause to believe, that his physician will order for his patient mechanical appliances from that manufacturer who will secretly pay him the largest commission. Equally reprehensible is it to permit a mechanician to endanger the life and health of any patient by prescribing apparatus, the requirements for which can only be disinterestedly comprehended by one learned in the laws of disease.

A SUGGESTION BEARING UPON THE TREAT-MENT BY A NEW METHOD OF PERSISTENT

BY CHARLES L. GREENE, M.D.,

OF ST. PAUL, MINN.;
INSTRUCTOR IN CLINICAL MEDICINE IN THE UNIVERSITY OF MINNESOTA,
VISITING PHYSICIAN TO CITY AND COUNTY HOSPITAL AND
UNIVERSITY FREE DISPENSARY.

It is with considerable diffidence that I propose a method of treating a condition that has ever been a reproach to the medical profession. Each year sees patient after patient die from the effects of uncontrollable vomiting, and no means at present within our reach meets our need in the really severe and dangerous cases. The following plan of treatment is crude and undeveloped, and the plan is suggested because I have been vainly awaiting for the past year an opportunity to test its real value, and because, should it prove useful, further delay would be inexcusable. Cases of this kind are un-



Showing special tube and ordinary tube. Full size.

common, and my practice is along lines which make them of even greater rarity to me than would be the case if I were in general practice.

It is evident that in casting about for a way to

overcome this formidable disease or symptom we must first consider the means through which it proves fatal. These are chiefly two:

(a) Actual exhaustion from the violent and per-

sistent retching.

(b) Starvation from the lack of power to secure and retain a proper amount of nourishment.

Rectal feeding may partially overcome the latter, but is unsatisfactory and inefficient, while in many cases no known measure will overcome the former. The treatment, to be efficacious, must, therefore, prevent the act itself, and thereby insure the reception and retention of food.

In considering the anatomy and physiology of vomiting we find a suggestion that when followed out may furnish us with a practical means of satisfying our needs in this direction, for whatever may be the cause of the act, whether local or reflex influences excite it, the actual process remains the same, and consists simply (a) in a slight contraction of the muscular fibers of the stomach itself, bringing about closure of the pylorus and opening of the cardiac orifice; (b) a coincident and vigorous contraction of the muscles of the belly-wall; and (c) a rapid and forcible inspiration, with closure of the glottis, which fixes the diaphragm and furnishes a rigid surface, against which the stomach is vigorously compressed and thus relieved of its contents. Now, it appears to be admitted by modern physiologists that unless a stomach be overfull, overflowing in fact, vomiting cannot be brought about in adults without fixation of the diaphragm, and this fixation we find to be dependent upon the rigid ribs and pressure excited by the deep inspiration, and the column of air retained by the closed glottis. If, then, this be correct, and we open the trachea, our patient certainly cannot vomit, and if we could secure the patency of the trachea by intubation we would soon have a means of partial or complete

Acting upon this theory the modified tube, herewith represented, has been constructed by Tiemann after the plan submitted by me, and would seem to meet the indications in so far as preventing glottic closure is concerned, and it is also intended to prevent complete descent of the epiglottis, which in the ordinary O'Dwyer tube would close the upper opening and thus defeat its purpose.

It will be noticed that the tube is like that of O'Dwyer's in its general outline, but the head is very much greater in height and there is an opening upon its anterior face, or rather its posterior aspect, as viewed in situ. This opening is intended to allow free egress and ingress of air whatever the position of the epiglottis. Applied to the cadaver this tube fully meets the indications, and should be borne, one would suppose, with little more discomfort than would be caused by a tube of the ordinary pattern.

O'Dwyer's articles have amply demonstrated the remarkable tolerance of the laryngeal structures, and many instances are cited by him in which tubes of large caliber were borne with little discomfort for a long period. The tube figured is probably too long in the shank and too heavy, and, as suggested by Tiemann, should properly be made of vulcanite rather than of metal.

The association between the center for glottisclosure and that of vomiting is so intimate as to suggest the possibility that mere prevention of approximation of the bands would prevent the proper carrying out of the remainder of the act, and if this were the case the ordinary tube would be the proper one to use. It would seem probable, however, that any closure of the air-passage through whatever means brought about would admit of the completion of the act, and that it were absolutely necessary to secure a clear passage for the air and thus rob the diaphragm of its rigid base of support.

The applicability of this method of intubation to severe cases of hiccough or pertussis would also

suggest itself.

The process of intubation is so simple and well understood at the present time as to offer no difficulties to most of us, and but little hardship would be inflicted upon a patient by this procedure.

I have experienced much difficulty in securing a substantial basis for the theory advanced, and confess myself doubtful upon several important points. The observations of surgeons upon the occurrence of vomiting after tracheotomy would be of especial value here, and will, it is hoped, be forthcoming, for should the tube fail through improper construction, or for other reasons, I believe that tracheotomy would certainly be a justifiable procedure in the terrible disease or symptom under discussion.

There are many factors that will prevent any very positive statements for or against the proposed treatment until the test of actual experience has been instituted. Dr. Henry Sewell, of Denver, whose work in physiology is widely known, has cautioned me against a too ready acceptance of expressed views of authorities, and calls particular attention to the separate existence of the center of glottic closure and that of the act of vomiting itself, indicating the possibility of independent action, though so far as one can ascertain they are supposed to be invariably in harmony. The want of definite pathologic knowledge, the possibility of overaction of the pharyngeal constrictors, and many other things may be thought of as possible disturbing factors, yet, nevertheless, it will be seen that there are possibilities in the line of treatment submitted, and the opportunity to test it will not be lacking to some of us in the near future. The tubes may be obtained from Tiemann, and the introducer is that ordinarily used.

I conclude with an apology for this necessarily indefinite and incomplete report, and the hope that we shall find something of real utility in the application of intubation or tracheotomy to cases of severe and intractable vomiting.

CLINICAL MEMORANDUM.

A CASE OF LUPUS VULGARIS.

BY LOUIS MACKALL, JR., M.D., of washington, D. C.

When I first saw this patient I thought that her case would be an interesting one, and I had a photograph taken to show her condition at that time. The follow-

ing is the history:

Ida E., aged eighteen years, resides in a canal-boat at the Maryland Dock. About six years ago she was treated at the Emergency Hospital for nasal catarrh. She described her nose as then being slightly swollen, and very much stopped up with crusts. The physicians there gave her various snuffs to use. She then went to Hancock, Md., to live. While there, about five years ago, she says the present condition began on the left ala of her nose as a pimple that rapidly formed into a crust. The doctor that treated her there told her that she had a "cancer," but made no effort to remove it. It is my opinion, though I have no absolute proof of it, that this is one of those interesting cases in which the disease commenced on the mucous membrane of the nose, and that the catarrh for which she was treated at the Emergency Hospital was the result of the lupous condition already existing. The entire nose disappeared in about three months, the left side being eaten away first, then the right; then the disease attacked the rest of the face, and continued to spread up to the time she came under my care, when the face was one immense scar covered with crusts and nodules. The entire nasal cavity was filled with crusts and tuberculous ulcerations. There was a cleft in the horizontal portion of the palatal bone and in the palatal process of the superior maxilla. She says that she did not have this cleft when she was a child. We are informed by all authorities that lupus does not attack the bones. I suppose that they would account for the cleft in this case by saying that the soft parts ulcerated and left the bones exposed, and that these necrosed as a result. When I first saw her there were some periosteal nodes on the right ulnar and left tibial bones. These disappeared for a time; but those on her leg returned, and again disappeared under treatment. During the period of her illness she has been confined to bed only three days. I mention the fact to illustrate how much these patients can endure and yet go about. She menstruated for the first time last month. The family history does not furnish any information. The girl says that her mother died of dropsy at the age of forty-nine years, and that she had a cough when she died. Her only sister is living and presents a very healthy appearance. She has no signs of pulmonary or of laryngeal trouble. She has been under my treatment for several months past, and though she comes to my

I shall not weary you with a detailed statement of my treatment, which has nothing unusual in it; but I will only give a brief synopsis of the method adopted. I have been giving her tonics of various kinds, alteratives, and as nutritious a diet as possible in her station. I removed all crusts, and then applied Unna's plaster to her face, and a solution of salicylic and carbolic acids of the same strength to her nasal cavity until the tubercles were completely broken down; I then dressed the raw surfaces with a solution of hydrogen dioxid.



There have been several classifications of lupus; but the one generally accepted divides it into two broad classes, lupus vulgaris and lupus erythematosus. It is not always so easy to decide to which of these two simple classes some examples belong. I have seen patients in the clinics of Sir Jonathan Hutchinson which even he was not able to classify. I consider the most simple classification of a disease always the best. Lupus is one of the few true tuberculous ulcerations of the skin. It is an infectious disease caused by a specific micro-organism, the bacillus tuberculosis. Koch has proved this fact by finding the bacilli in small number in the nodules characteristic of the disease. The bacilli, according to Moullin, occur in the shape of very thin non-motile rods from two to eight micromillimeters in length, and are found in the interior of the giant-cells and epithelial cells, but they are so few that many distinguished authorities deny that they can be the cause of such a destructive ulceration. Both forms are very chronic.

office very irregularly she has continued to improve very rapidly.

¹ Read before the Clinico-Pathological Society of Washington, D. C.

Lupus vulgaris is very common in England. It is even estimated to form about 2 per cent. of all cases. But I think that statistics on that point are not reliable. Both forms of the disease are rare in this country. Lupus vulgaris is much more common than lupus erythematosus, and, as my case belongs to the former class, I shall confine myself to the description of that variety.

Lupus vulgaris, as a rule, begins in childhood, very rarely commencing after the fourteenth year, although there are some few cases on record beginning as late as the thirtieth year of life.

The disease generally begins on the face, attacking first the cheek or nose. It is usually unilateral, although sometimes it presents as symmetrical an appearance as lupus erythematosus. It sometimes attacks the limbs, buttocks, and mucous membranes. There is a case reported by Mathews Duncan in which it attacked the vulva, but authorities generally believe this to have been a case of syphilis. The face is the favorite locality for all forms of lupus, and it generally takes for its victim one who has a fair complexion. It is more common among females than among males. Crocker describes a typical case as commencing with a few scattered or grouped spots about the size of a pin-head, of a dull-red color, on the level, depressed, or raised, above the normal skin. They do not disappear on pressure. These spots are gradually developed into small tubercles which have a semi-translucent aspect and are of a brownish color and present the appearance of apple-

These tubercles, sometimes rapidly, sometimes slowly, are developed into a red patch or patches raised distinctly above the skin, and having a firm edge. At this period there is generally a scaliness present. The growth of the disease varies considerably. It has variable periods of improvement; the older one gets, the more frequent is there a tendency to quiescent periods. I think that this is so because the patients learn to take better care of their general health, and learn by bitter experience to avoid exposure of all kinds. Associated with the lesions on the face at a later period of the disease they often present on the limbs subcutaneous nodules that finally become adherent to the skin itself, In those who have a strumous diathesis they often present abscesses, periostitis, caries, etc. Joints sometimes become crippled from the contraction of tendons in the cicatrices.

The age of the patient, the scarring, the apple-jelly nodules, and the persisting spreading render the diagnosis easy.

It is very seldom that there is a complete cure after the places are apparently healed up. If the patient becomes a little run down in health the disease recurs each time, destroying more tissue until the face becomes one complete scar.

Early diagnosis is of extreme importance, for it is only in those cases in which it is made that we may hope to cure the disease by prompt eradication.

The treatment is divided into constitutional and local.

The latter is, by far, the more important; but the constitutional should not be neglected, and everything possible to improve the general health should be done. Improvement in assimilation is the great aim. As nutritious a diet as is permissible with perfect assimilation

should be allowed. The patient should be surrounded by good hygienic conditions, and he should avoid exposure to the weather, as cold is considered one of the predisposing causes. Cod-liver oil, iron, hyphophosphites, and other tonics (when they agree with the alimentary system) are often beneficial, because the disease is so often associated with the strumous diathesis. For a long time past all attention has been given to local treatment.

Koch's lymph has revived great interest in the general treatment. The great object aimed at is complete removal of the tuberculous tissue. We endeavor to do this by many different methods; but the principle of them all is the same. Some surgeons use the Volkman spoon. Perhaps this is the most popular method. When the spoon is used great care should be taken to use it thoroughly at the margins of the sore. The actual cautery is applied by some after using the spoon, and by others it is applied without the previous use of the spoon, Afterward the sore should be dressed with one of the various antiseptics. Various chemicals have been employed by different surgeons. Among those which are most deserving of mention is Unna's plaster, which consists of salicylic acid and phenol as its principal ingredients. The phenol is used because of its anesthetic power. This plaster is called after the celebrated Unna (of Hamburg), who used it a good deal. The application should be renewed frequently until the nodules break down and free suppuration sets in. Some antiseptic ointment should then be applied to the sore. Some surgeons use chromic acid and others caustics. The result does not so much depend upon the caustic selected as upon the care taken by the physician. Recently some experimenters have endeavored to produce erysipelas in the sore, and they claim that the experiments have produced some good results; but I have had no experience with this method. There can be no doubt that Koch's lymph has proved beneficial in some cases. It has rarely failed to produce either a general or local reaction, and generally both. Some of the London surgeons have combined the surgical method and Koch's treatment with very good results.

NEW DEVICE.

A NEW EXTRACTOR FOR THE REMOVAL OF INTUBATION-TUBES FROM THE LARYNX.

BY DILLON BROWN, M.D., OF NEW YORK.

THE greatest difficulty in the technique of intubation is the removal of the tube, and it is almost always during efforts at extraction that the larynx or neighboring soft parts are injured. Either the sharp point of the extractor is forced into the soft tissues and a false passage is made or the tip fails to enter the tube and passes along the outside of it, within the larynx, so that when the blades of the extractor are widely opened and withdrawn they divulse the larynx, and the tube sinks out of reach.

On account of these objections many have entirely abandoned the operation; others remove the tube by position and by pressure over the trachea; and others

¹ This device was exhibited to the American Pediatric Society, May 27, 1895.

remove it by the string, one end of which is attached to the tube and the other fastened to a tooth or brought out through the nose. The dangers and disadvantages of such methods are obvious.

These serious drawbacks to this most brilliant operation have led me to modify the tubes and to devise the extractor which is described and illustrated in this paper. A wide experience in teaching men who are unfamiliar with the operation has demonstrated to me that a large proportion of them find much difficulty in removing the tube with the old extractor, and many of them never succeed in doing it quickly and skilfully. With the new instruments rarely does a man have any trouble in quickly extracting the tube—even in the beginning, and without practice. And it seems to me that a nurse could be easily taught to take out the tube after a few minutes' instruction on the cadaver.

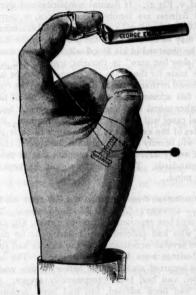
The new tube is as efficient as the old one; it does not

the tube. Pulling on this string brings the ends of the metal ring together and holds it firmly on the finger, and it is kept steady by wrapping the string once around the index finger and grasping the wooden handle in the palm of the hand. The string can be sufficiently shortened by means of the screw to enable one to do this with ease.

On feeling the tube, and pressing firmly down and back, it is almost impossible for the eye to avoid slipping between the finger and the kook, and the shape of the latter prevents it from escaping. On withdrawing the finger the tube must come with it. It is evident that this extractor not only greatly simplifies the removal of the tube, but makes it impossible to do any damage to the larvnx during this procedure.

These tubes and extractors are made by Mr. George Ermold, 312 East Twenty-second Street, New York, and my thanks are here extended to him for the skilful manner in which he has carried out my suggestions.





The Dillon Brown Extractor.

increase the difficulties of deglutition—rather the reverse—and it does not interfere with the older methods of extraction. It has a stiff wire loop attached to its head (see illustration), which is firmly fastened to one side, rises about one-eighth of an inch, closely follows the posterior edge of the head of the tube, and is finally fastened to the corresponding point on the opposite side. This makes an eye, bent posteriorly, which is easily and almost unavoidably caught, and which does not interfere with the opening in the tube or with the epiglottis. The posterior part of the head of the tube is scooped out, making an antero-posterior groove, which still further facilitates the catching of this eye.

The extractor is a simple hook fastened to the finger (see illustration), so that the tip is held moderately firmly against its palmar surface, and far enough away from the ball to prevent its interfering with the sense of touch. The hook is fastened to the finger by the flexible metal ring, and is removed by the string after it has caught

MEDICAL PROGRESS.

The Cerebral Fissures of Two Philosophers, -In a paper read by title before the American Neurological Association, Dr. Burt G. Wilder stated some results of a study of the brains of two philosophers, Chauncey Wright and James Edward Oliver. These men were recognized as superior in character and mental power. They were mathematicians, and thought deeply upon the broadest questions. Wright was more a writer and general critic; Oliver was more a teacher of advanced mathematics. The latter was slight in frame and alert in action, the former was large in person and slow of speech and movement. Wright's brain weighed 1516 grams (53.50 ounces), Oliver's 1416 (49.94 ounces). Although above the average of male brains (about 1400 = 49.4 ounces), greater weights are not uncommon even among less intellectual persons. In both, the frontal region is unusually high and wide; the unprecedented squareness of Wright's

suggests some post-mortem pressure, of which, however, there is no record. In both, the supertemporal fissure is longer than common. Oliver's fissures present several individual variations from the common type, but none comparable with the two rare conditions in Wright's, already noted by Dwight (Amer. Acad. Arts and Sciences, Proceedings, xiii, 210-215, 1877), and by Wilder (Journ. Nerv. and Mental Disease, xvii, 753-4; Amer. Neurol. Trans., 1890; Ref. Handbook Med. Sciences, viii, 158-159, ix, 108). The complete interruption of the central fissure has been observed in a dozen cases or more. The simplicity of the fissures and the width and flatness of the gyres are paralleled in the Cornell collection only in the much smaller brain of an unknown mulatto (No. 322, Ref. Handbook, viii, Fig. 4767). Some approach to this condition occurs in Ruloff, a murderer (No. 965), and perhaps in a German shown by Wagner (" Vorstudien" Taf. vi, Fig. 2) after Huschke ("Schädel, Hirn und Seele," Taf. v, Fig 2). If fissural simplicity and gyral width and flatness are family characteristics, or correlated with Wright's mental and physical deliberateness. then light may be thrown upon the problem by the conditions to be observed in his blood-relations or in others similarly "slow but sure" in thought, speech, and act, As a close mate for the brain of Chauncey Wright has not been found in that of James Edward Oliver, the contemplated full account of it need not longer await the death of other moral and intellectual compeers. Such exceptional cases will always command attention. But all estimates of the extent and significance of their peculiarities will be only provisional until the careful comparison of many average brains supplies one or more types or standards. This necessity should be kept in the public mind.

Fatal Hematemesis from Ulceration of a Gall-stone into the Duodenum .- DUFFETT (British Medical Journal, No. 1794, p. 1090) has reported the case of a man, fifty-two years old, who had suffered from biliary colic for nine years. On several occasions, after the attacks had subsided, gall-stones were found in the stools. The last attack had occurred nine months before coming under observation, and had been exceptionally severe. An operation had been advised, but had been declined. The patient came under observation for an attack of hematemesis, in which more than a pint of dark, clotted blood was ejected. The skin and conjunctivæ were jaundiced, and there was intense irritation of the skin. The abdomen was flaccid and easily palpable, but no enlargement of the liver or gall-bladder could be made The bowels were constipated, the stools claycolored, and the urine contained bile-pigment. Shortly afterward, after overexercise, the man vomited up a pintand-a-half of semifluid, dark blood, and two hours later an additional half-pint; besides, the bowels moved unconsciously and the stools contained partially decomposed blood. On the following day the patient complained of faintness and dimness of sight, and soon afterward vomited three pints of clotted blood, one clot representing a distinct cast of the pyloric end of the stomach and the upper part of the duodenum. A further hemorrhage was followed by death. Upon partial postmortem examination the liver was found hard and slightly contracted. The stomach contained a quantity of blood, its mucous membrane was thick, and there was no trace of ulceration. The pylorus was normal. The gall-bladder was small and contracted and empty, and its walls thickened. A finger introduced into the gall-bladder passed easily into the duodenum. Lying loose in the duodenum was an unfacetted gall-stone with a quantity of blood. The edges of the opening were soft and probably of recent date. The gall-stone measured three-quarters by one-half inch, and weighed when dry forty grains.

Endogenous Formation of the Malarial Parasite.-LEON-ARD (International Medical Magazine, vol. iv, No. 4, p. 265) has been able to study the endogenous formation of the malarial parasite by means of photomicrographs prepared from fresh malarial blood, kept at the temperature of the body with the aid of a warm stage, and magnified two-thousand diameters. The free, non-pigmented, hyaline ameboid form is a minute globular hyaline mass, of a slightly different density from the surrounding medium, varying in size, but seldom exceeding onefifth the diameter of a red corpuscle. It is found attached to a red corpuscle, and may be seen in active ameboid motion within the red corpuscle. It represents the first stage of the life-cycle of the malarial hematozoon. The intra-corpuscular pigmented form is developed from the non-pigmented ameboid form after it has entered the red corpuscle, and contains a pigmentmelanin, which is a derivative of the hemoglobin of its host collected in a granular form. It varies in size, sometimes gradually increasing until it occupies the entire corpuscle. The extra-corpuscular pigmented form is the intra-corpuscular pigmented body which has come out of the red corpuscle, either by the extrusion of the individual or by the formation of a number of these bodies within a corpuscle and its subsequent rupture. The crescentic body or malarial crescent is probably a resting or spore-form, and is found generally in cases of malarial cachexia.

A Pregnancy of Ten Months.—At a recent meeting of the Chicago Gynecological Society Dr. F. A. Stahl reported the case of a German-Bohemian woman in which the fifth pregnancy terminated 302 days after the last menstruation. Twenty days before there had occurred pains similar to those of labor, but they gradually ceased. The sacral promontory was exaggerated, and the antero-posterior pelvic diameter of the inlet in consequence diminished. The fetus was large and occupied the first position. Version was with difficulty effected, and the passage of the after-coming head through the superior strait required expression and traction, during which the child died. The mother suffered a deep laceration of the perineum, involving an inch of the wall of the rectum.

Recovery from Hyperpyrexia Accompanying Pleurisy and Pneumonia.—STANLEY (British Medical Journal, No. 1794, p. 1144) has reported the case of a woman, thirty years old, in which in an attack of pleurisy and pneumonia the temperature rose on two occasions to 114°. At these times the patient complained of complete loss of sensation in the hands and feet, and requested to have have them rubbed. Absence of delirium was noted.

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THE PERFECTION AND THE RESOURCES OF THE HUMAN MACHINE.

It is so easy to notice defects, either in others or in ourselves. In others they seem to stand out in bold and cheerful relief, while in ourselves they thrust themselves upon our notice in the most annoying manner. When we agree with the Psalmist that "we are fearfully and wonderfully made," it is our fearful liability to break down or get out of order that we are chiefly thinking of. Perhaps this is but natural, for it is always the evil in things that most sharply impresess us. Comfort is a passive, hazy sort of sensation compared with the clear-cut acuteness of pain. Besides which there's no need to pay any attention to the good qualities of things. They'll never bother you. "Well enough" can be safely "let alone." Ill, however, demands our instant attention and action.

Health will take care of itself, disease must be cured at once if possible. A healthy man doesn't know that he has such a thing as a stomach; a dyspeptic doesn't know that he has anything else. Hence pain is the great educator, the chief spur to investigation. If there were no suffering there'd be no medicine, no anatomy even; pathology is the

starting-point of physiology. So long as all goes well and smoothly we care nothing about our interior make-up, but let "dys-" anything develop, and the digging and probing begin at once.

Does not this state of affairs have a strong, though unconscious, influence upon our mental attitude as a profession toward the human machine? We are kept so continually engaged in patching and tinkering at it that we are in danger of coming to look upon it as a bundle of defects. The larvngologist declares that a healthy (or artistically symmetrical) nose or throat is rare; the gynecologist deplores the faulty plan of construction of the uterus and vagina: the oculist announces that a "normal eye" is to be found only in the text-books; and the bacteriologist regards the young human body merely as a congenial culture-medium for the Klebs-Loeffler and the adult one for the Eberth bacillus. We are prone to rate our patients much as Falstaff did his recruits. "Tush, tush; mortal men, food for powder, food for powder!" only the grains of our "powder" are alive and wiggle, and assume a variety of comma-shapes. Even as sanitarians we seem to delight in populating the heavens above, the waters, the earth beneath, the dust of our streets, the food upon our tables, with hosts and swarms of tiny savages to whom the human body is a helpless prey whenever pounced upon. Existence would be impossible but for germicides, say we. It is positively dangerous to be alive! In short, we often forget that the human body is not a pulpy victim of circumstances, but the toughest, most resisting, most marvellously adaptable, and most ferocious organism that the sun shines upon. It can flourish where nothing else can, and fatten on a diet of any other organism that can be mentioned, not excepting the pathogenic bacilli.

In the first place, the lesson that the school-ma'am is so fond of impressing upon the infant mind, "Man is physically the feeblest of all animals, but by his superior brain he masters all," is utterly untrue. Man is physically the finest, most dangerous animal in the world. Not a bird or beast or even fish that he can't beat at its own game, if he sets himself about it. The Blackfoot Indian will run down a deer, knife in hand; even the "tireless wolf" can be overtaken and killed if you can only keep on his trail. The negroes of Mozambique spring right into the water and attack sharks, armed only with a short knife. The Sikh will face a tiger with his short, heavy scimeter, and a thous-

and tests abundantly demonstrate that civilized man is as much superior to the savage as the latter is to the animals. Club or sword in hand, man is a match for the most ferocious beast of prey in a fair, stand-up fight, and the club or its descendant is as much a part of us as our bones or skin; but for it we should never have allowed our teeth and claws to degenerate into such feeble objects. Its use has made us right-handed; right-handedness has specialized the cortex to such a degree that speech was possible, and speech makes thought possible. So that our mental superiority is purely an outgrowth and a part of our muscular superiority. In the language of Tommy Atkins in Kipling's ballad, homo sapiens is "a pore benighted heathen, but a fust-class fitin'-man," and two-thirds of his virtues, moral, physical, and mental, are the fruits thereof. And yet we talk of him professionally as if he were a clam without a shell.

In the second place, there is no known organism that can defy the elements as he can. Any zoologist will tell us that no other mammal and no bird has one-half the geographic range that the human species has. His faithful friend, the dog, will accompany him almost everywhere, but only by having his food, shelter, and even clothing provided for him by the superior species. We speak of being "as rugged as a bear," but it takes three distinct species of Ursus to keep pace with man from the tropics to the pole. A dozen or more species of deer are required for the same match. Even the domestic animals when carefully housed and fed by him are far inferior in toughness, and one of the greatest obstacles to his progress in many regions is the impossibility of finding any beast of burden or milk-giver that will live in the climate with him. The only species that can even enter the lists with him is the bluewinged teal, and he is disqualified at once by the fact that he is the "very moral" of a fashionable valetudinarian, spending his summers in Labrador and his winters in Florida.

Much of this faculty is, of course, due to man's power of constructing shelter and clothing for himself, but still more to his worldwide range of foodmaterials. Look at him in the tropics, subsisting on rice and fruits, only sawdust and shavings under his boiler, so to speak; in the Arctic regions, gorging upon seal-meat and whale-blubber, firing his engine up to the explosion-point. His instinct meets the situation. A Hindoo would look with loathing on the eighteen-or-twenty-pound meal of seal-blubber

of the Eskimo, and we carnivora of the temperate zone would hesitate about attacking it. Yet a professional friend of ours has assured us that on a mid-winter trip with dog-sledges near the Alaskan shores of the Arctic Ocean be positively lost all appetite for bread, lean meat, fruit, sugar, etc., and cared for nothing but the unsalted dried salmon and rancid seal-oil which formed the food of both his Eskimo guides and their dogs. A pint of the latter beverage carried in the uncured skins of the animal, he declared, was as refreshing and appetizing after a long day's run as hot coffee with cream. When we remember that the whole party was sleeping out on the ice every night, in a temperature of from 30° to 60° below zero, with no shelter save their reindeer-skin, night-bags, and their sleds piled up on the windward side of them, we begin to see the reason for this almost pure hydro-carbon diet. There was not room in the human stomach for enough of any other material to furnish heat to keep up the bodily temperature against such fearful odds. But think of the splendid adaptability of the creature! Our respect for the human machine becomes immeasurable. other extreme, look at Stanley and his Somalis, laboring forward day after day in heat and feverfog through the jungles of the Congo, everything carried on the heads of the men (no horses, oxen, or even asses could stand the work and the climate), all on a diet of roasted bananas, sugar-cane, and green corn.

The same toughness and faculty of adjustment manifest themselves even more strongly when we come to consider the unfavorable environment in which man places himself in the various occupations of civilized life and the strain of city surroundings. Scarcely a trade or occupation can be mentioned in which most of those engaged in it are not vigorous, healthy, and long-lived. We speak of "occupation-diseases;" it is true there are such, but none of them ever affects more than a small percentage of those engaged. Even when they occur they are symptoms of lowered vitality, either local or general, on the part of the sufferer in most cases. Many of them can be avoided entirely by cleanliness and observance of the ordinary laws of health. "Painters' colic," for instance, is caused entirely by eating the mid-day lunch with unwashed hands or upon spattered boards or tables, and can be completely escaped by always thoroughly cleaning the hands before eating. "Phosphorus-necrosis" never attacks a healthy mouth or jaw, and can be prevented by the prompt filling or removal of decaying teeth. "Chimney-sweeps' cancer" finds a perfect prophylactic in the daily use of soap and water. It was long supposed that in "miners' consumption" and "printers' phthisis" and "knife-grinders' asthma" we had a group of diseases, practically necessary risks of the three occupations, but the first is completely out of the list now, first, because the death-rate from tuberculosis is no higher among miners than in the rest of the community, and, second, because a similar carbonized condition of the lungs is being found to exist in a considerable proportion of dwellers in manufacturing towns and smoky cities without any corresponding increase in the prevalence of pulmonary tuberculosis. It is also more than suspected that the irregular hours and worse habits of the "typo" have much more to do with his "consumptive" tendency than the dust of dried printers' ink in which he works.

Of all occupations probably none has had a blacker reputation for unhealthfulness, both popularly and professionally, than that of the coalminer. Working as he does hundreds of feet under ground, in wretched little burrow-like passages, in an atmosphere foul with coal-dust, fire-damp (CH,), "choke-damp" (CO,), and powder-smoke, exposed to the most frightful accidents by explosion, by water, by falling rock, surely no mortal organism can long resist the pressure. When we further remember that in the English mines the galleries in which he works scarcely average four feet in height, and that in coal-getting ("holing under" the seam) he often works for yards at a stretch in a space two feet or less in height, so that he has to lie flat on his side to swing his pick; that the mine is usually both warm and damp, so that he emerges dripping wet at the pit-mouth into an atmosphere from 30° to 60° lower; that his dwelling is a mere barrack, usually badly built, badly drained, and overcrowded; that his wages are so irregular that life with him is generally "either a feast or a famine," we marvel that the breed doesn't become extinct. No wonder it was for long years rated as an extremely unhealthy occupation. The question has been carefully investigated within the last ten years, however, with the astounding result that "the comparative mortalityfigure of these laborers is considerably below that of all males, and, if we exclude accidents, only slightly exceeds that of the most healthy class, the agriculturalists." (Dr. Ogle, Census Statistics of 1881.) The same authority also reports that "his mortality from phthisis is remarkably low." The Labor Commission sums up its findings in the sentence: "The weight of evidence seems to be against the idea that coal-mining is an unhealthy occupation." That veteran gladiator, the human body, has risen to the emergency again and conquered just as it used to do in the ages when it lived on bearmeat and ground-nuts by choice, mussels and seaweed by necessity, and sucked its paws when it could get neither.

The soap-renderer, the hide-scraper, the tanner, the refuse-sorter literally spend their lives amid the most offensive odors and putrefying materials, and yet their mortality is scarcely perceptibly heightened thereby. The workers in our foundries, our smelters, and our engine-rooms live at terrific temperatures for hours at a stretch with comparative impunity. The Swansea copper-smelter, for instance, works hard for seven or eight hours a day in a temperature of from 102°-110° Fahrenheit, exposed to a glare, when the doors are opened, of from 350° to 400°, drinking from two to three gallons of water a day to supply his loss by perspiration, and yet he is a hale, hearty fellow, and lives to a good old age.

In fact, man can accustom himself to work with safety and even comfort at almost any temperature, pressure, degree of moisture or dryness, in almost any position or atmosphere, providing he is reasonably well fed and housed, and maintains a fair general condition of health.

And it were well for our bacteriologic brethren, indeed, for all of us, to remember that the toughness and resisting-power of the human body are just as great against disease and all its germs as against any other unfavorable influence; that the fixed cells of our own bodies are to the deadliest bacilli as a regiment of British infantry to a swarm of Hottentots; that the hottest place a disease-germ can get into is a healthy bronchus or stomach.

Our chief aim in the cure of disease should ever be to "give Nature a chance."

NERVOUS DISEASES AND MODERN LIFE.

The foregoing is the caption of a most interesting and brilliant contribution to the *Contemporary Review* by Dr. T. Clifford Allbutt, in which it is most cheering to find him vigorously opposing the prevailing impression that our nerves are going to rack and ruin under the strain of civilization. He first

points out that most of those who indulge themselves upon this subject are in the habit of arguing somewhat in a circle to the effect that, firstly, nervous diseases are on the increase, therefore modern life must be injurious, and secondly, that modern life is mischievous, therefore nervous maladies must be increasing.

The stock-in-trade argument in support of the first proposition is the alleged increase of insanity. This, Dr. Allbutt considers at some length, and concludes that the "figgers" are in reality misleading when certain other facts are taken into account. First of all, our lists of the insane are much more complete than they could be twenty years ago, and a very much larger proportion of them are cared for in asylums of some sort; the days of the village "innocent" or the household "deficient" are over. Second, the life-terms of these unfortunate creatures. no longer permitted to roam at large in all weathers and beg their food, protected against their own folly or violence and carefully nursed and treated in illness, have been greatly prolonged, so that a much larger number of them would be living at any given time. Indeed, from his own observation and his inquiries of experts Dr. Allbutt is inclined to believe that insanity is actually slightly on the decline. although apparently (from the causes named) on the increase. He further questions whether modern conditions are in any way responsible for the mass of our existing insanity. The greatest increase noticeable. for instance, comes from the agricultural laboring class, who are, of all others, least subject to the bustle. strain, and excitement of civilized life. No class or profession can be said to be more liable to insanity than any other; indeed, some of the highest percentages are to be found in the illiterate classes. History abundantly shows that possession by devils, frenzies, epidemic manias, etc., are and have been at least as common among savage tribes as similar mental disturbances among civilized peoples.

The doctor next takes up the question of the increase of nervous diseases generally. He shrewdly opens with the remark that it is commonly alleged of nearly all chronic diseases that they are on the increase nowadays, carcinoma, heart-disease, and gout, for instance. Much of this he regards as due to the simple fact that, to use a Hibernicism, "more people live to die of them." Our great advances in hygiene, dietetics, quarantine, and therapeutics have greatly decreased infant-mortality and the infection deathrate, which, of course, leaves a larger proportion of

individuals surviving to adult or middle life subject to the diseases named, "for die we must somehow," as he quaintly remarks. Then, again, we are becoming much more attentive to symptoms of disease or discomfort than formerly, less inclined to resign ourselves to things, more determined to have a name and a cure for our ailments. The "patient invalid" of exemplary piety is no longer our ideal; but "our neurotics have begun, like ghosts, to walk, and we exclaim that the earth is full of them." As a result of this impatient resistance we are so much better fed, housed, exercised, and treated that the physique of all classes has been greatly improved, and particularly that of the upper and middle classes.

There is a delightful ring of sturdy sense in Dr. Allbutt's protest that most of the results attributed to "overwork" and "overstrain" are really due to the bad physical habits of the worker, and senseless methods in which the work is done, such as under-feeding or over-feeding, hurried eating, stuffy rooms, insufficient air, exercise, and recreation, etc., and not to the work itself. We are only just beginning to know how to work intelligently. Our medical courses, even their surroundings, are a disgrace to the age, and "businessmethods" are even worse.

And now comes the most interesting position of the whole paper, and, in our judgment, the most impregnable: that the popular belief that because the greatest demands of the age fall upon the nervous system the latter is injured thereby is entirely fallacious. On the contrary, it is strengthened and invigorated by exercise, just as any other part of the organism. The whole life of civilized man is becoming so much wider and healthier and happier that his nervous system is becoming really stronger and better balanced every The nineteenth-century nerves are better able to bear the demands upon them than were those of the eighteenth century in their time. The age is better, broader, more humane, saner in every way, mentally, morally, and physically than it was a century ago. Such brutal coarseness and obscenity as Hogarth's pencil and Swift's pen sketched on every highway and parlor-carpet could hardly be found nowadays save in Whitechapel or Five Points. Insanity is a disease of the narrow, ignorant, untrained mind, rather than of the contrary. (Farmers' wives, for instance, in this country furnish the largest female quota.)

Of course, this great development has necessarily

been accompanied by a higher degree of nervous excitability. But, as Allbutt neatly puts it, "it is the business of nerves to be excitable." It is an essential part of their sensitiveness, of their fineness of organization, which alone makes all this progress possible. Fancy a poet, a violinist, a statesman, a general even, without sensitive nerves. Most of the "over-excitability" of which we complain is due to under-exercise instead of overwork, just as a mettlesome horse becomes absolutely uncontrollable if kept too much in the stable, and frets himself into a lather when harnessed, instead of settling down to work. Just give our wailing neurotics plenty of work of interest, of responsibility even, and their ailments and "nervousness" will in most cases disappear as by magic. Not only this, but the neurotic is often actually under-sensitive rather than the contrary, absolutely anathetic, if not mentally anesthetic, in many respects. Indeed his excitability is not seldom due to lack of inhibition of the first impulse by some balancing sensation and motive. He is unbalanced from a deficiency and not from an excess of "nerves."

As to the senseless claim that we are fast becoming "degenerates" (the pseudo-scientific equivalent of "cranks," and like it so charmingly applicable to anybody we do not happen to approve of) under the strain, and that most of our so-called "genius" is a mild form of insanity, our authority briefly but effectively remarks that its advocates appear to have little real knowledge and no clear idea of either genius or insanity, and, he might have added, of history, either, for with these charlatans it is the exception that proves their rule with a vengeance. "In the hands of these gentlemen a man of mark is not admitted into the ranks of genius unless he can show some claims to insanity: while on the other hand a streak of this malady insures for very dull dogs a welcome into the inner circle." And he closes this section with the pithy reflection, "I will not inquire where the malady may lie between the observer and the observed."

In short, most of our "nervousness" is really due to defective control, lack of sufficiently keen and powerful balancing impulses, to narrowness, feebleness, and one-sidedness of development, and insufficiency of work and demand, rather than to the opposite. Superficial sensitiveness is often due to absence of real depth and breadth of feeling, while through wider sympathy, deeper passion,

and more vigorous exercise of all our powers come both health and, what is better, progress. "It is in the battle rather than in the fruits of victory that we find the precious extract that is the medicine for the malady of our generation."

EDITORIAL COMMENTS.

Medical Abuses in New York.—The medical profession of New York City appears to be awakening to a realization of some of the abuses of which medical men are made the victims. At a recent meeting of the New York County Medical Association attention was forcibly directed, among other things, to the discourtesy with which physicians are sometimes treated by the lay trustees of semi-public hospitals, and to the injustice to the members of the profession from the free treatment in the numerous dispensaries of persons able to pay for medical attendance, and the treatment in hospitals of patients of comfortable means and more, without charge for professional attendance. The frequency was pointed out with which attending physicians are merely dropped from the medical staff without a word of notice or explanation. A committee was appointed with instructions to meet during the summer to prepare a report and to propose suitable remedies. The abuses referred to have been frequently discussed in these columns, and we are glad to see them receive official cognizance by a powerful and representative medical body. Active agitation of the subject must result in good, and the necessary remedy would be easy of application in the hands of an organized and united medical profession,

Selections from Medical Journals .- Our sprightly and enterprising contemporary, The Medical Fortnightly, recently took occasion to say that THE MEDICAL NEWS in its Medical Progress "always prints a collection of extracts from English, French, and German medical publications-rarely one from an American journal." Conscious of both the inaccuracy of this statement and of the injustice of the imputation contained in it, we have analyzed our Medical Progress and Therapeutic Notes for the past thirteen weeks and find that of ninety-two abstracts twenty-three were prepared from American journals and proceedings of American medical societies and the remainder from English, German, Austrian, Swiss, and French. As a matter of fact, all of the abstracts in the issue of June 22 were from American publications. We trust the fealty of THE MEDICAL NEWS to the American medical profession is too well established and their community of interests too obvious to require defence from hasty and ill-considered statement.

The State Board of Veterinary Medical Examiners of Pennsylvania.—Act 55, approved May 16, 1895, provides for the establishment of a Board of Examiners to regulate the practice of veterinary medicine and surgery in the State of Pennsylvania. The Board is to consist of five members appointed by the Governor, who shall be graduates of recognized veterinary colleges and of at least five years' practice. This most commendable Act goes into force on the first Monday in September, 1895,

after which no one shall enter upon the practice of veterinary medicine and surgery unless he has been duly licensed and registered, and no licence will be granted until the applicant has submitted to a theoretic and practical examination, including the following subjects: Veterinary anatomy, surgery, practice of medicine, obstetrics, pathology, chemistry, veterinary diagnosis. materia medica, therapeutics, physiology, zootechnics, sanitary medicine, and meat-and-milk inspection. Heavy penalties are imposed for violation of the Act.

Sweat Bake shops .- In an investigation undertaken by the Women's Union, a society of women interested in the labor-movement, shops have been discovered where bread is baked under most filthy conditions. These shops are usually in cellars where vermin and rats are in abundance, and in which the bakers sleep when off duty. Such shops are not confined to any special district, but may be found all over the city.

Public opinion can do much in bringing about a ch ge, both in this and sweat-shop clothing, by demanding cleanliness in the manufacture of such articles. We understand the Union is about to publish a list of bakeries where proper sanitary conditions are enforced; a label has also been adopted which will be a guarantee of well-made bread.

The Report of the Trial of Amick vs. Reeves .- A distinguished correspondent writes us, apropos of the editorial in THE MEDICAL NEWS of June 20th, that perhaps sufficient publicity was not given to the appeal for subscriptions to the fund for the purpose of publishing in pamphlet-form the report of the trial of Amick vs. Reeves at Chattanooga, Tenn. The appeal appeared both in the Philadelphia Polyclinic and THE MEDICAL NEWS of April 27th, and we hope that our recent remarks will meet with an unequivocal response. THE MEDICAL NEWS will be glad to receive and acknowledge subscriptions of fifty cents and over. We have received \$1.00 from Dr. R. S. Wallace.

CORRESPONDENCE.

LEGAL PROTECTION OF PROFESSIONAL CONFIDENCES.

To the Editor of THE MEDICAL NEWS,

SIR: It will probably interest readers of THE MED-ICAL NEWS to know the exact wording of a law passed by the Legislature of Pennsylvania at its last session and signed by the Governor on June 18th, which was meant to provide protection for physicians called as witnesses in civil suits against questions the answers to which would injure the good name of their patients.

Here is the text of the law:

"An Act to Prevent Physicians and Surgeons from Testifying in Civil Cases to Communications made to them by their Patients.

"SECTION 1. Be it enacted by the Senate and House of Representatives of the Commonwealth of Pennsylvania in general assembly met, and it is hereby enacted by the authority of the same, That no person authorized to practise (sic) physics (sic) or surgery shall be allowed in any civil case to disclose any information which he acquired in attending a patient in a professional capacity, and which was necessary to enable him to act in that capacity, which shall tend to blacken the character of the patient, without his consent."

The courts will probably construe this law in the sense in which it was intended. But this sense might have been much better expressed, as any shrewd lawyer could easily juggle with the new law so that its object would be wholly defeated; and, as it contains no penal clause, there is nothing to prevent a physician (if moved by malice or carelessness) from doing precisely what it forbids.

Medical men may note that the law affects the position of a witness in civil suits only, and that it does not leave the medical witness any choice, but (so far as it may be operative) forbids him from violating professional confidences. Just how far the courts will rely upon the judgment of a physician-witness who objects to a question on the ground that a particular answer, if given, would "tend to blacken the character" of his patient remains to be seen. Meanwhile this law is a movement toward an end long desired by medical men, and it is to be hoped that it may accomplish what has been desired. Respectfully,

CHARLES W. DULLES.

DETERIORATION OF DIPHTHERIA-TOXIN.

To the Editor of THE MEDICAL NEWS.

SIR: In your issue of June 1, 1895, in a footnote on page 600 of Dr. Howard's article on the treatment of diphtheria with antitoxin, he refers to my test of the antitoxin and the finding of a strength of 60 antitoxinunits to the cubic centimeter. Since these tests were made the flask of toxin that was used has been found to have lost its toxic properties to a great extent. When this change took place I do not know, but if it took place after the strength of the toxin was ascertained and before the antitoxins were tested, it of course invalidates the experiments

Aronson's antitoxin was tested at the same time and found to have a strength of 100 antitoxin-units to the cubic centimeter, as reported by Aronson. This would tend to show that the toxin lost its properties after the tests. The only other flask of antitoxin in the laboratory was ruined by the laboratory-janitor carelessly mistaking the bottle and pouring some waste ether into it. At present we have no diphtheria-cultures in the laboratory of sufficient virulence to make new toxin and check the test. Very respectfully yours,

CLARENCE O. ARRY.

PATHOLOGIC LABORATORY, WESTERN RESERVE UNIVERSITY. CLEVELAND, OHIO.

A CEREBELLAR TUMOR.

To the Editor of THE MEDICAL NEWS,

SIR: Some of those who read my paper on "Brain-Syphilis," published in THE MEDICAL NEWS, January 19, 1895, may be interested to learn the result of the autopsy in Case III, which revealed a tumor the size of a large English walnut, situated on the anterior border of the right cerebellar lobe and attached to it by a pedicle. Unfortunately no microscopic examination was made, so that it is unknown whether or not the growth was specific.

The diagnosis was partly right and partly wrong. It

was correct in locating a tumor at the base of the brain on the right side, but wrong in not recognizing the involvement of the cerebellum. It was thought at the time I saw the patient that the ataxia could be accounted for by the diplopia which was present. But the situation of the tumor adequately explains the symptoms.

From the practical standpoint, however, the belief that the tumor was inoperable was fully justified.

Yours respectfully, THEODORE DILLER.

VERATRUM VIRIDE IN THE TREATMENT OF PUERPERAL ECLAMPSIA.

To the Editor of THE MEDICAL NEWS.

SIR: Mrs. S., a multipara, aged twenty years, was seized with convulsions at the commencement of labor and was in the midst of her sixth attack when I reached her. No examination of the urine was made. The patient was very edematous. The usual remedies were tried without improvement. The pulse was 140 and bounding. I gave, hypodermically, six drops of veratrum viride, diluted with a little water, every half-hour till the pulse was brought to normal, when the convulsions ceased. The os was fully dilated by this time and a living child was soon afterward born. The patient had no return of the convulsions. The only after-effect of the remedy was a very sick stomach, which soon wore off. I gave three doses of the remedy in all.

Respectfully, C. M. HYDE.

AUGUSTA, MISS.

SOCIETY PROCEEDINGS.

AMERICAN NEUROLOGICAL ASSOCIATION.

Twenty-first Annual Meeting, Held at Boston, June 5, 6, and 7, 1805.

(Concluded from page 740.)

DR. CHARLES K. MILLS opened a discussion on the subject of

CORTICAL LOCALIZATION IN THE LIGHT OF RECENT RESEARCHES INTO THE MINUTE ANATOMY OF THE CORTEX.

He said that the different theories as to the separate cortical localization of movements and of cutaneous and muscular sensation, which had been the subjects of so much controversy, have again become prominent in the light of the researches founded upon the methods of Golgi, and particularly those made by Raymon y Cajal, Von Gehuchten, Schäfer, Andriezen, and others. Those who contend against the doctrine that the Rolandic cortex is a purely motor region believe that they have received additional support for their views. The varying hypotheses with reference to the functions of the cortex were reviewed. He held that, as shown by Forel and Nansen, we have been too long handicapped by prevailing ideas of cell-action and by theories of the parts played by the cell-bodies as originating centers. Impulses are transmitted and transferred by processes as well as by cell-bodies, and the function of the latter is chiefly trophic. The new researches and theories, he

believed, did not compel abandonment of former views as to special localizations, although different standpoints had been taken. Disregarding theory entirely, he believed that the subdivision of the cerebrum into physiologic lobes-higher psychic, motor, sensory (meaning for the representation of cutaneous and muscular sensations), visual, auditory, olfactory, gustatory, and naming -remained for the practical purposes of the physician and surgeon the best: while the whole of the cortex in some of its strata may be regarded as a sensory expanse. if the Rolandic portions and particularly the convolutions cephalad of the central fissure constitute a region that is related to specialized movements of various parts of the body. One calls it motor, another kinesthetic, another sensorimotor, and another executive; but for the purposes of the physician and surgeon it is a motor sphere, the irritation of which causes specialized movements, while its destruction impairs or abolishes these movements. He did not believe with Andriezen that it is necessary to regard the ambiguous and great pyramidal cells of this region, whose apical processes received the terminals of the fillet-radiations, as the first sensory cells of the cortex. Indeed, he regarded it as important to rid ourselves entirely of the idea of sensory cells and motor cells. The cortex contains localized areas. To abandon separate sensory and motor localization would, he believed, necessitate the abandonment of visual, auditory, gustatory, and other subdivisions of the cortex. The cerebral sensory area—that is, the area of representation for skin-sensations and muscle-sensations, both cortical and subcortical-from his point of view, would be that part of the cerebrum where the fillet-radiations in their most compact forms are nearest to the surface of the brain, and therefore this region might continue to be described, as it had been by him, as in the postero-parietal, quadrate, and fornicate convolutions. Destruction of this region, especially if bilateral, caused more or less impairment of sensation. He referred to cases as confirming this view. In the cerebrum, as in the spinal cord, were fields of junction between so-called cortical areas, and lesions of these fields of conjunction or at the terminations of the sensory projection-fibers might give rise to temporary phenomena; but persistent sensory disturbances were found only when the lesions involved the convolutions included by him in the general sensory area,

DR. DANA said that he had collected a number of other cases, and added some of his own, and it is because he cannot explain the clinical facts or the pathologic facts by any other hypothesis than by supposing that the motor and sensory functions are practically united that he still holds to that view. He asked Dr. Mills to explain why. when one cuts away a section of the midcentral, precentral convolution, he finds tactile anesthesia and muscular anesthesia the next day, with paralysis, on any theory except that these two functions are united in that spot. These cases are extremely numerous in the literature of neurology. If one carefully shaves off the anterior, precentral convolution in the middle part, he will get sensory disturbances and anesthesia. Dr. Mills may not perhaps be aware that in the living subject the motor cortex has been directly irritated, also in front of the fissure of Rolando, producing sensory and motor disturbances. The whole weight of clinical evidence is in favor of this viewthe surgical operations, the tumors, the softenings; all are facts that cannot be explained on any other hypothesis so far as he knew than that the two functions are essentially identical anatomically.

It is a plausible theory that the visual centers, the center for visual sensation and auditory and gustatory sensations are separate from the motor sensations; these and cutaneous and muscular sensations would naturally have separate centers, but it does not at all hold against any actual facts: and when we come to analyze it, it is not so necessary or plausible after all. The visual sensations are not so closely related to motions as are the cutaneous and muscular sensations. For the performance of co-ordinated movement we must have a very close anatomic relationship between the muscular and cutaneous sensations. They must be close together anatomically for the purposes of a perfect machine, otherwise we could not make rapid motions; and he believed it is for that reason that nature had gradually shifted the sensory receptive cells so that they are in approximately close relations with the motor cells, He believed that perhaps if we were all agreed as to exactly what is meant by sensations, and exactly what tests we use for making sensations, and were agreed about the terminology of our discussions, we would not perhaps have so much discussion about this matter. He agreed with Dr. Mills that sensations are not closely localized, and he agreed that we should speak of sensory areas, but did not believe that we have sensory areas separate from the motor ones back in the post-central and parietal lobes or in the gyrus fornicatus. He does not accept Dr. Starr's view that the sensory centers are back of the fissure of Rolando, for, from the evidence that he has been able to collect, there is just as much proof that the precentral convolution has sensory functions as that the post-central one has.

DR. PUTNAM thought Dr. Dana's closing sentence must be accepted as absolutely certain, that the convolution in advance of the fissure of Rolando, which we ordinarily associate with the localized movements, has as much to do with sensation as convolutions anywhere else. In support of that fact he mentioned one case among many in which Dr. Warren excised a minute piece of the cortex of a young man with epilepsy beginning in one hand-a piece a few millimeters in diameterwith the result of producing paresis of the hand, paralysis in the beginning, and also a disturbance of the sensibility of the whole hand. It seemed to him that this showed that in some way the function of sensibility is closely related to the same centers with the function of motion. We are still decidedly lacking in a sufficiently adequate physiologic or psychologic conception of what we mean by these various terms. The function of sensibility must be very widely distributed.

For example, an enormous tumor was removed, almost as large as an orange, which lay directly in the motor tract, so that the whole of the motor area was removed with a good part of the internal capsule. Nevertheless that patient still has a very considerable degree of sensation left, of course modified, but he feels in a very high degree, so that although the removal of the motor convolution has affected the sensibility of the limb it has not by any manner of means destroyed it. Nerves will stand a high degree of injury, sufficient to destroy entirely their motor functions, without material interference with their sensory functions. The same thing is true as

to the cord; a minute portion of it will convey centripetal impressions.

Although we must admit that the function of sensibility is closely related to the function of localized motion, we must admit that it is closely related to a great many other functions, and it remains to be seen whether, as in the case of the relation of the muscles of articulation to the function of speech, there is any center that is highly specialized. He had in mind several cases in which the sensory functions have been disturbed in connection with paresis of one hand, in which he seemed to be able to detect a greater degree of loss of sensibility or impairment of sensibility on the side of the ulnar part of the hand on the median portion.

DR. STARR said we certainly have facts that Dr. Dana has stated that are indisputable, and those who are constantly seeing cases of cerebral surgery and exsecting cysts and portions of the cortex by clots that can be removed are perfectly positive that a small limited area of the so-called motor zone does inevitably produce in almost every case more or less disturbance of sensation. He said he was completely mistaken in 1890, when he maintained that sensations were only to be referred behind the fissure of Rolando. He believed with Dr. Dana completely to-day that there are sensations produced by small lesions anterior to the fissure of Rolando, and that the sensory area of the body corresponds exactly with the motor area of the body so far as we can determine clinically. He thought it would be a mistake to draw too broad a conclusion from these facts.

It is perfectly evident that the term diffusion of sensibility is a capital one, and our present anatomy shows why it is; it is because the sensory fibers terminate in brush-like expansions, so that we must conceive of a sensory fiber as virtually terminating in a long region of the nervous system; in fact, almost throughout its entire length. Now suppose that with the continued passage of sensations over these fibers diffusing themselves in general directions habit opens the way in one direction rather than in another, that a sensation coming in might be diffused from the arm over the entire parietal arm-center and also diffused over the motor center, but inasmuch as we guide our movements by touch habitually the result is that a greater passage is opened out to the motor zone. Diffusion of the sensibility in various areas gives an explanation for the fact that a few cases are on record in which we get sensation lost alone, and the vast majority of cases show that sensation and motion are lost together. We must abandon the idea that consciousness and conscious perception, and perhaps to some extent conscious motion, are associated with the particular cells. It is just as reasonable to believe that they are associated by association fiber-action with the combined activity of various areas of the brain as they are with single cells, and he thought we will come down finally to the fact that a cell is to be regarded more as a trophic center than as a motor or sensory center.

DR. DERCUM said that the stand that had been taken enables us to explain certain other phenomena not alluded to here, namely, the fact that the cuneus atrophies in cases of blindness lasting for many years. Certain it is that we have no right to conclude from these facts that the cuneus only sees. It is probable it does

other things. The various centers of the cortex, as we know them clinically and pathologically, are simply highways of ingress and egress to the general cortex. It gives us no right to say that this portion of the brain may do this special thing and that portion that special thing. General biologic considerations also would negative the sharp differentiation of cells into special functions. Nerve-protoplasm reacts to certain forces; to say one cell would react to one mode of motion and another to another is unphilosophic and not borne out by general biologic considerations.

DR. RICHARDSON said, in reference to the tumor of which Dr. Putnam spoke, that so far as he knew there was no destruction of the motor areas except by pressure of the growth. The tumor was very large. It took up a very large portion of the left hemisphere. But so far as he knew, there was no destruction of braintissue by manipulation during the operation. The man

is now doing very well. DR. COLLINS recently had a case of cerebral surgery in which the development of sensory and motor defects was rather peculiar. The young man had had his first attack of Jacksonian epilepsy in November, and the movements were contraction of the finger and thumb. When he saw him in March he had had three seizures. In conjunction with Dr. Sachs, Dr. Gerster operated on the patient over the superficial cortical thumb-andindex-finger center. As the patient bore the anesthetic very badly, it was necessary to postpone the operation after the skull had been opened; that is, cutting into the cortex was deferred. That night he had an extremely severe attack, which had been preceded a short time by a very high temperature and loss of consciousness for a long time. The following morning he had paresis of the right upper extremity and loss of sensation; that is, loss of tactile sense, loss of sense of position, and loss of muscular sense in the right hand. Three or four days afterward the dressings were opened and a good deal of distention was found from effusion into the surrounding cellular tissue, but otherwise where the operation had been done it seemed very much like normal. Then a large part of the cortex was cut out. An old pachymeningitis was present, and the Nissl stain revealed degeneration of the cortical cells. He was put to bed and his hand tested for sensibility that evening. The disturbances of sensation had all disappeared. These observations were made with extreme care.

DR. ANGELL, of Rochester, corroborated Dr. Collins because he had had a similar case. He made the prediction that there would be paralysis for five or six days at least, and to his surprise, when the boy recovered from the ether two or three hours after the operation, he tested him thoroughly and found sensory paralysis. Within twentyfour hours there was absolutely no sensory paralysis or sensory disturbance. He did not believe it possible to make an impression upon any center of the brain closely related to another center without affecting temporarily that sensory center. Whether or not this will explain the reason why we have a short paralysis of sensation when we remove the motor cortex is, of course, beyond our power yet to determine. It may be by cutting into the cortex that we affect the rootlets of the radicles from the sensory tract which we suppose reach over and produce this diffusion of sensation that has been referred to.

DR. PRINCE, of Boston, said there is a third fact that Dr. Starr had left out of consideration, and that is the fact that in many cases which had been referred to by other gentlemen there had been no loss of sensation. These must be exceptional cases that must be taken into consideration in order to find a law. A great many could be mentioned. He referred to two which he thought were of great importance. In one case he first scooped out a piece of the brain equal in size to half an orange, leaving a hole two inches in depth, involving a very large portion of the upper part of the descending convolutions, caudate lobule, and some part of the parietal convolution. Before the operation there was hemianesthesia with paralysis; after operation there was absolutely no loss of sensation whatsoever tested in the most minute way. A case like that, it seemed to him, is a crucial case, and if the word center has any meaning whatsoever it must mean a portion of brain the function of which is destroyed when taken away.

These cases show that a large portion of the motor cortex can be destroyed without loss of sensation.

Dr. Putnam, of Boston, said that no one would speak clinically or anatomically of the sense of hearing and comprehension of spoken words as located in the same part of the brain, but we know that these two functions lean on each other internally so closely that not only do we get more or less aphasia from disturbance of the center for hearing, but we also get to a less degree a great deal, as is also the case with sensory phenomena, of disturbance of centers of comprehension in most forms of motor aphasia. In short, cerebral functions do not exist in themselves; they exist as related to other functions, and one cannot destroy one without more or less impairing others, although it may be only for a brief time.

THE PRESIDENT added that the whole of our knowledge of the neuron goes to show the very pronounced dependence of the motor neuron upon the sensory neuron. In the primary neurons it has been clearly proved that the terminal processes of the axis-cylinder of the sensory neuron are closely connected with the apical process of the motor neuron in the cord. The development of fibers in the cortex, in the brain itself, shows that the sensory tract passes distinctly upward toward the central convolution, the parietal region, rather than downward and inward toward the gyrus fornicatus, where Ferrier some time ago located the sensory centers, and where Dr. Mills still has a leaning toward placing it. In other words, judging from all the analogies in the anatomy of the brain, the higher sensory neurons must either pass upward directly to connect by their axiscylinder processes with the cells of the motor neuron, or there must be association-tracts from these axiscylinders going up to the motor processes. We find no association-tract passing up from the gyrus fornicatus to the central fissures; and, furthermore, although Dr. Prince had just brought up the negative cases of lesion of the central convolution without injury to sensation, there have been in the past a very large number of socalled negative cases about the central convolution with absolutely no motor disturbance. Most of those, with our increasing knowledge, have been explained away, and ten negative cases do not afford as much evidence as one positive case. The positive cases of sensory disturbances following lesions behind and in front of the

fissure of Rolando are increasing in number and become very conclusive. The positive cases of lesion in the neighborhood of the gyrus fornicatus are very few and far between.

DR. MILLS, in closing, claimed that this discussion confirmed the standpoints he had always taken. It seemed to him astounding that Dr. Dana and others here speak of the cases in which physiologic or pathologic lesion of the motor cortex as exceptionally producing alone motor symptoms. Every one of us must admit the cases referred to by Dr. Starr and Dr. Dana, and by Dr. Putnam and Dr. Knapp's case, because we know they have been well studied and well recorded; that is, cases in which sensory phenomena of some sort have accompanied the motor phenomena in cases of destructive lesion of the pre-Rolandic cortex. We must also admit the two or three cases in which certain experiments upon the cortex in life have caused peculiar temporary disturbances of sensation at the time. These cases of sensory disturbance from strictly limited lesion of the motor cortex, cases in which the symptoms were motor alone instead of sensory, are as one-hundred to one, and we do not think it longer worth while to collect these cases. In a score of these cases the patients have been examined in life with the greatest care and the lesions located in death, and in cases of operation the greatest care had been taken in studying sensory phenomena, and those sensory phenomena had not been present. He mentioned two cases in which the motor phenomena persisted day after day, and day after day changes were noted until the patient was largely restored as regards motion, sensation not having disappeared at all. He did not think it worth while, therefore, to pit these cases which Dr. Dana had collected as an argument of great value against the very numerous cases that teach the other thing. However, he must acknowledge the other cases. Have we no explanation for these cases? He would suggest three or four explanations for these cases in which destructive lesions cephalad of the sensory area have given rise to sensory disturbance. One explanation, which may seem far-fetched, is that these cases are somewhat of the nature of the cases in which we have sensory disturbances in hystero-traumatisms. Certainly the traumatism inflicted by the surgeon's knife, or by injury or disease, in acute cases, or by operation such as Dr. Dana refers to, is greater than that which we have in these other cases. Another explanation is that he suggested in 1888, and which grows out of these later researches on cortex anatomy. Undoubtedly every area of the cortex, visual, auditory, gustatory, sensory, etc., must be related to and anatomically connected with the motor regions of the cortex. Now it is through the destruction of these terminals of the fillet-radiations, whether they be continuous with the apical process of the pyramidal cells or simply constitute a field of conjunction, we have a separation between the motor and sensory areas, and at least temporary disturbances of sensation would very likely in many instances result. It is a great cortical sensory expanse in this sense, but there is one region in the brain in which these fillet-radiations are placed between the cortex, and which for the surgeon's and physician's purpose should be regarded as the sensory region. It is next to the motor region and between the motor and great sensory region. It has a separation, and one which is practical for our purposes. The remarks made by Dr. Starr, he thought, were on the whole confirmatory of what he had stated. It would seem, therefore, that the weight of argument and the weight of the evidence advanced here are still in favor of the localizations to which he had always clung, and which were believed in by Charcot, Ferrier, and others. He had never claimed that the gyrus fornicatus was the sole region of common sensibility in the cortex of the brain. His own position has always been that the sensory cortex proper includes at least a portion of the gyrus fornicatus, the quadrate lobule, and the posterior parietal convolutions, and the arguments he advances must stand for the motor region, and not for a part of it.

DR. DANA asked if Dr. Mills would state specifically whether he denies that the central convolutions have any sensory function; if he absolutely excludes sensory

function from the central convolution.

DR. MILLS replied that for our purposes and for our practical idea of a center or area he believed the central convolution or convolution cephalad of the central fissure had no sensory function; he believed the posterior central convolution and the posterior parietal and the region he had named perhaps take part in sensory phenomena, that is, the sensory region posterior to the central fissure.

TUMOR OF CEREBELLUM, WITH AUTOPSY,

was the title of a paper read by DR. E. D. FISHER, of New York. The interesting features of the case were the absence of any symptoms that could be directly referred to the cerebellum. There was no inco-ordination -nor any staggering in the gait. The pain was situated principally over the right orbit. The only well-defined cranial lesion was that of the eighth nerve on the right side, there being absolute deafness. There was possibly a slight involvement of the seventh nerve on the right side, and the patient said she had complete loss of smell. The general symptoms of a cerebral tumor-i.e., headache, convulsion, and optic neuritis-were present. A lesion at the base of the brain was suggested by the cranial nerve lesion, with involvement of the cerebellum; the absence, however, of cerebellar symptoms and the localization of the pain so definitely over the right orbit led to an exploratory operation in that situation. The tumor was not found at the time, but there was a complete relief from the pain and the convulsions until the time of death, eleven weeks later, which was caused by a septic basilar meningitis. Autopsy revealed a glioma involving the right cerebellar hemisphere.

DR. PRESTON, of Baltimore, related

THREE CASES OF TUMOR OF THE BRAIN, WITH AUTOPSY.

The first case was that of a boy, aged thirteen years. For a year he had what looked like ordinary epileptic attacks, which were very much lessened by the bromids. Then he suddenly developed diplopia, with some neuroretinitis. Vision was greatly reduced, and there was at first left lateral achromatopsia, and afterward left hemianopsia. Gradually he lost entirely both sight and hearing. The reflexes, both superficial and deep, were lost. He complained of most intense headache, and there was gradual failure of mental power. The autopsy revealed a large tumor, involving the entire right temporal lobe; the occipital lobe was softened and broken

down, but the cortical portion of the occipital lobe was not involved. The tumor was a sarcoma. The second case was interesting from the fact that the tumor, a small papilloma, not larger than a partridge-egg, burying itself in the right superior occipital convolution, produced intense headache, with double optic neuritis, The third case showed a large sarcomatous tumor involving the temporal lobe, all except the first convolution, the greater part of the occipital lobe, and the lateral lobe of the cerebellum. The symptoms were not very well marked, except headache and mental disturbance. It was interesting to note that the first temporal convolution was not involved, though the rest of the lobe was virtually destroyed, and in accordance with our accepted views concerning the auditory center there was deafness.

A specimen of

BRAIN-TUMOR

was presented by Dr. G. L. Walton, of Boston. The main interest was the question whether an operation might have proved successful. The patient was fifty-three years of age, and complained of frontal headache only two months before his death. Attacks of vertigo, loss of speech, and severe general convulsions preceded and followed. Aphasia, agraphia, right hemiplegia, and right hemianopsia were present, with double optic neuritis and loss of superficial reflexes on the right. The tumor occupied the angle between the Rolandic and Sylvian fissures. Extension forward under the healthy cortex reached beyond the transverse frontal sulcus. It was fairly well defined, but with no distinct capsule. The center was necrotic. The symptoms suggested so extensive infiltration that operation was considered to offer small hope, but the extension backward was not so great as the hemianopsia would indicate, a fact which, together with recently published cases of removal of large infiltrating gliomata, would lead, perhaps, to a somewhat more hopeful prognosis in another case of this

The three preceding papers were discussed together. Dr. Starr referred to a case of infiltrating glioma in the arm-area of the motor zone. Symptoms developed in the course of a year: Headache, optic neuritis, spasm of the right hand and arm, and later paresis and loss of sensation. Operation revealed a glioma, very extensive and very vascular. It was impossible to remove it safely. Death followed within a few hours. He mentioned a case of suspected tumor of the corpora quadrigemina. A flap of bone was removed from the parietal region, and an attempt to puncture the ventricles was unsuccessful. There was no relief of pain. He concluded that operation under such conditions was useless. He agreed with Dr. Fisher that the position of pain is of no value in localization.

DR. DANA said that the use of the chisel upon children and infants is a bad method of operation. He recommended the use of the improved revolving electric saw, as used by Dr. Powell, of New York.

DR. GEORGE W. JACOBY, of New York, had witnessed two operations upon adults in which the electric saw was used. He considered the method objectionable, as there was more hemorrhage, and a wedging of the saw interfered with the operation. He spoke favorably of Quincke's lumbar puncture for relief of intracranial pressure.

DR. DERCUM spoke in favor of a perpendicular burr worked by a dental engine.

DR. COLLINS had seen a case in which, after each series of blows from the mallet and chisel, the pulse fell from 60 or 70 to 35 or 40.

DR. G. M. HAMMOND had witnessed one operation with the electric saw upon an adult and many upon children. The saw as now used has a greater electromotive force to operate it than formerly, and this obviates the earlier difficulties as mentioned by Dr. Jacoby.

DR. DERCUM had noticed the same symptoms following the use of the chisel as described by Dr. Collins.

A case of

INJURY OF THE ANGULAR GYRUS FROM FRACTURE OF THE SKULL

was reported by DR. C. EUGENE RIGGS, of St. Paul.

HEREDITARY CHOREA, WITH AUTOPSY,

was the title of a paper by Dr. Charles L. Dana, of New York.

DR. MILLS looked upon the case as very important. It suggested the true explanation of a large class of cases (such as Friedreich's ataxia, hereditary chorea, spastic paralysis), that these are teratologic.

DR. H. A. TOMLINSON, of St. Peter, read a paper on INSANITY AND PHTHISIS, THEIR TRANSMUTATION, CON-CURRENCE, AND COEXISTENCE.

He considered that pulmonary tuberculosis and insanity are equally potent factors in the production of brain-instability. The preponderance of degeneration among those having an heredity of tuberculosis is significant, as indicative of the influence of this disease in one generation, in determining a defective nervous system in the next, and his tables also indicated that the more direct the heredity the greater is the probability of transmutation. Disease-processes which are constitutional or diathetic attack primarily one or other form of tissue, with the result of progressive degeneration and disintegration if the tissue be epithelial. However, if the connective tissue is the seat of a disease-process, it either increases rapidly in amount, and remains permanently increased, or undergoes liquefaction.

The most common form of degeneration among the insane is the connective-tissue type, or the premature and excessive manifestation of the changes which ordinarily occur in senility. The preponderance of imperfectly developed connective tissue in one generation implies the excessive development of functional tissue in the next, thus accounting for the transmutation of disease-tendency. These changes are abundantly illustrated in the tuberculous and defective children of neurotic or syphilitic parents.

THIRD DAY-JUNE 7TH.

DR. WM. N. BULLARD, of Boston, read a paper on THE DIAGNOSIS OF PACHYMENINGITIS INTERNA HÆM-ORRHAGICA.

He considered the pathology of this affection as yet unsettled, though he believed the weight of evidence to be in favor of a non-inflammatory origin. There are several forms of subdural hemorrhage, but consideration was given only to the apparently spontaneous, non-traumatic affection occurring in adults. The points of differential diagnosis between this condition and other forms of intracranial hemorrhage are as follows: (1) subdural hemorrhage is peculiarly common in paralytic dements and in the chronic insane, and not rare in chronic alcoholics: (2) the onset is often more gradual than in ordinary intracranial hemorrhage, and the irritative stage lasts unusually long; (3) the symptoms of irritation are prominent. General epileptiform convulsions and localized convulsive movements are likely to occur. (4) The peculiar rigidity occurring in one limb in connection with symptoms of hemorrhage, and when no affection like tuberculous meningitis exists, is very significant. The treatment in this condition is removal of the clot. In all more serious cases this should be done as soon as the disease is recognized. A case was reported in which operation was performed and the clot removed, although too late to save the life of the patient.

DR. TOMLINSON thought the term pachymeningitis a misnomer. The primary condition is non-inflammatory. In syphilitic cases there are no signs of active inflammation, but changes in the bloodyessels.

DR. FISHER believed that the blood comes from newly formed vessels which have resulted from inflammation, and asked what the special indications were for operative interference.

DR, BULLARD answered that operation was indicated when symptoms of pressure existed. The question as to the origin of the disease remains sub judice.

DR. E. W. TAYLOR, of Boston, presented a case of

TABES AND MULTIPLE SCLEROSIS.

There had been probable syphilitic infection twenty years before. The patient first noticed a tremor of the hands fourteen years ago, followed by pain of a lancinating character in the legs, associated with general muscular weakness. There were gradual increase of these symptoms, with occasional paresthesia of the legs; girdle-sensation and difficulty in micturition; loss of kneejerk; Argyll-Robertson pupil; lancinating pains; disturbances of sensibility; so that the diagnosis of tabes dorsalis was unquestioned. In addition there were slight nystagmus, spasm of the posterior thigh-muscles, muscular weakness, hesitating speech, and absolutely characteristic intention-tremor masking the little ataxia present.

DR. PRINCE then presented microscopic specimens from a case of

CEREBRO-SPINAL SYPHILIS.

Dr. Joseph Collins, of New York, read a paper on the

PATHOLOGY AND MORBID ANATOMY OF AMYOTROPHIC LATERAL SCLEROSIS.

He referred to the moderately constant clinical picture of amyotrophic lateral sclerosis, and the variable pathologic conditions on which it has been found to be dependent, and pointed out that the number of cases in the literature that were well substantiated by autopsy were fewer than one might be inclined to think. Reference was also made to the different views held by the followers of Charcot and Erb on one hand, and of Gowers, Leyden, and others on the other hand, as to whether the disease is primarily of the pyramids, with

secondary involvement of the anterior horns, or whether it is but a variation of the common form of progressive muscular atrophy. The case was reported of a man. thirty-three years of age, in which after death atrophy of the ganglionic cells throughout the cord was found, Throughout the cord, but especially in the cervical and dorsal regions, there were evidences of excessive vascularity, in the shape of large, thickened bloodvessels, especially in the gray matter, and there were spaces from which the vessels had disappeared. In the cervical cord, corresponding to the place of apparent softening in the recent state, was found great disorganization of the ground-substance of the anterior horns. In the medulla there was degeneration of the nuclei throughout the entire extent, with the exception of the extreme caudal end. There was also slight degeneration in the tenth and common vago-accessorio-glosso-pharyngeal nucleus, but none in the pyramids of the medulla. The root of the twelfth nerve was small and delicate. A second case occurred in a male, forty-eight years of age. Cultures made from a piece of cord from the cervical region revealed the presence of the tubercle-bacillus in considerable numbers. In the cervical region there was degeneration in the crossed and direct pyramidal tracts, with almost complete destruction of the anterior horns. In the dorsal region there were sclerosis of the crossed pyramidal tracts, slight sclerosis of the ascending cerebellar tract, diffusedly distributed dilated bloodvessels, some with very much thickened walls; extensive atrophy of the cells of the anterior horns, some degeneration of the lumbar and sacral regions, and in the dorsal, but in less degree. In the medulla atrophic changes were found in the nucleus of the twelfth nerve. A hemorrhage of ancient date was present in the dorsal region,

Dr. WILLIAM C. KRAUSS, of Buffalo, read a communication entitled

PERONEAL MUSCULAR ATROPHY, WITH AUTOPSY.

He reported the case of a man, seventy-eight years of age, who, at the age of eighteen, began to notice a weakness of the leg-muscles. This weakness was accompanied by atrophy in the peroneal and hamstring muscles of both legs and extended to the muscles of the thigh, the left thigh being much more affected than the right. Double club-foot of the pes varus variety resulted, and also a double genu valgum. The tendon-reflexes were absent on the left side, and also on the right, with the exception of the knee-jerk. Fibrillary contractions and sensory disturbances were entirely wanting. were present lordosis and scoliosis of the lumbo-sacral region. The muscles of the upper extremities were unaffected. The patient gave no history of any infantile disease or of poliomyelitis, and ascribed the affection to an accident. The patient died from uremia. Microscopic examination of the spinal cord revealed atrophy of the anterior horns, especially on the left side, extending from the caudal part of the thoracic region to the conus medullaris. The multipolar cells of the anterolateral group were visibly affected, in places having disappeared, in others undergone atrophy or degeneration, while the median group was less affected. The white matter was somewhat sclerosed, particularly in the antero-lateral and posterior columns, but not more than the age of the patient would warrant,

DR. COLLINS remarked that unless Dr. Krauss establishes that this was not a case of chronic anterior poliomyelitis, then it should not be accepted as one of the peroneal type of muscular atrophy.

DR. J. W. PUTNAM, of Buffalo, reported a case of

WRITER'S CRAMP

in a telegrapher. The man had previously had telegrapher's paralysis of the wrist, but later the symptoms increased to such an extent that the mere suggestion of writing, or the thought of writing, would bring on the spasm. This involved, in addition to the arm-muscles, the trapezius and the sterno-mastoid of the left side. The result was that, in attempting to write, the head would twist round to such an extent that the man was unable to see the paper. The patient was treated by hypnotism and deep muscular injections of atropin, with complete recovery after the lapse of two months.

DR. RIGGS related that he had seen a similar case, but that the trapezius was not involved. Much relief was obtained from the use of hyoscin hydrobromate.

DR. LESZYNSKY asked whether the favorable result was due to hypnotism or to atropin.

DR. PUTNAM replied that he attributed the recovery to suggestion through hypnotism.

DR. SMITH BAKER said that he had come to consider the associated contractions (those of the shoulder, head, etc.) as natural outcomes of the habitual attitude assumed by everyone whenever they intend to do any particular thing whatever. They may be designated as associated intention-contractions. The origin of these undoubtedly dates back to the time of either learning to write or of some position incidentally assumed for comfort, or other favoring result. The cure may come about through any means whereby the associations are broken up. Possibly writer's cramp itself is most frequently of purely psychic origin, and so rest, or hypnotism, or any other efficient psychic impression kept up long enough will result in recovery.

DR. SMITH BAKER, of Utica, read a paper on

AUTOMIMESIS,

which he defined as the process whereby impressions from the outside world or conceptions arising in the mind are first set as copy-models, and then automatically reproduced more or less indefinitely, until results detrimental or otherwise are attained. As usually considered, imitation means the reproduction of features found in other individuals. Automimesis or self-mimicry means the serial reproduction of characteristics dominant at some particular time in one's own mind. How such a copy-model first comes to be set and subsequently followed is often a mystery, but a pain, or shock, or word, or muscular tension, or unusual idea, or any incidental experience undoubtedly affords the requisite suggestion-imitative impulse. This is often seen in the development of hysteria, neurasthenia, melancholia, insistent ideation and allied states and tendencies, while evidence is accumulating to show that the succeeding automimetic series is a quite natural outcome of such an imitative impression. Cases illustrating automimetic development of disease were given, and the conclusion reached that possibly in this way there have been opened up points of view both as to etiology and therapy which are of value to neurologists.

DR. RALPH L. PARSONS, of Sing Sing, presented drawings and photographs illustrative of a new system of baths inaugurated at the institution with which he is connected.

DR. G. L. WALTON, of Boston, read a paper on

OBSTETRIC PARALYSIS.

He said that it is assumed that this condition is due to a stretching of the brachial plexus at a spot above the origin of the supra-scapular nerve. This does not account for the escape of the branch to the pectoralis major, which passes off immediately below. The same difficulty presents itself in the theory of pressure against the clavicle. It was suggested that the supra-scapular nerve is probably bruised independently against the supra-scapular notch or spine of the scapula, while the plexus below is bruised against the clavicle. The branch to the pectoralis major escapes through having no bony point of fixation. Probably rotation of the face away from the shoulder that is caught at the brim of the pelvis aids the stretching, as well as the drawing away of the head, already described in this connection.

The following papers were read by title: "Hometreatment of Insanity," by Dr. H. M. Bannister, of Chicago: "The Dual Action of the Brain," by Dr. Samuel B. Lyon, of Bloomingdale: "An Operative Procedure for the Relief of Basilar Meningitis Limited to the Posterior Fossa," by Dr. J. T. Eskridge, of Denver; "Fissural Studies of the Brain of Two Philosophers." by Dr. Burt G. Wilder, of Ithaca; "The Association of Tabes and Paretic Dementia," by Dr. Theodore Diller, of Pittsburg; "Must Acute Paranoia be Admitted into Our Nomenclature?" by Dr. William Noves, of Foxboro; "The Conservative Value of the Play-impulse," by Dr. Irving G. Rosse, of Washington; "Telegrapher's Paralysis," by Dr. James Hendrie Lloyd, of Philadelphia; "Case of Multiple Neuritis in an Infant," by Dr. Graeme M. Hammond, of New York; "Pseudo-neurasthenia," by Dr. Morton Prince, of Boston.

The following were elected to active membership: Dr. Hugh F. Patrick, of Chicago; Dr. Edward Wyllys Taylor, of Boston; Dr. Leopold Stieglitz, of New York; Dr. John Jenks Thomas, of Boston; Dr. H. L. Worcester, of Danvers; Dr. B. Onuf, of Brooklyn, N. Y.; the following were elected to honorary membership: Dr. S. Weir Mitchell, of Philadelphia; Dr. Camillo Golgi; Dr. L. Edinger; of Frankfort; Dr. Ramon y Cajal, of Barcelona; Dr. Dejérine, of Paris.

The following officers were elected for the ensuing year: President, Dr. F. X. Dercum, of Philadelphia; Vice-Presidents, Dr. George J. Preston, of Baltimore, and Dr. C. E. Riggs, of St. Paul; Secretary and Treasurer, Dr. G. M. Hammond, of New York.

NEWS ITEMS.

The American Orthopedic Association will hold its ninth annual meeting at Chicago, September 17, 18, and 19, The following papers have already been promised: On Forcible Correction, and Corrective Jackets, in the Treatment of Scoliosis, by Dr. Barnard Bartow, of Buffalo; Idiopathic Osteoarthrosis, by Dr. Wallace Blanchard, of Chicago; (1) The Use of the Plaster Jacket in Caries and the Effect of Position on the Spine. (2)

Caries in Adults, by Dr. E. G. Brackett, of Boston; (1) Operative Measures in Caries of the Spine. (2) Treatment of Slipping Patella, by Dr. E. H. Bradford, of Boston; On the Surgical Treatment of Congenital Dislocations, by Mr. Bernard Brodhurst, of London, Eng.; Some Cases of Osteoclasis with the Lorenz Osteoclast, by Dr. F. S. Coolidge, of Chicago; Improved Osteoclast, by Dr. Nicholas Grattan, of Cork, Ireland; title not announced, Dr. V. P. Gibney, of New York; New (anterior) Spine Brace, with Exhibition of Patients, by Dr. A. E. Hoadley, of Chicago; title not announced, Dr. A. B. Hosmer, of Chicago; The Deformity of Hip-disease, by Dr. A. B. Judson, of New York; The Causative Relation of Suppuration to Tuberculous Meningitis in Joint and Spine Disease, by Dr. Samuel Ketch, of New York; Ambulatory Treatment of Pott's Disease, by Dr. R. W. Lovett, of Boston; Club-foot, by Dr. R. W. Lovett and Dr. John Dane, of Boston; (1) Congenital Absence of Radii, with Operation. (2) Exhibition of Hip-joint Brace. (3) Plaster-of-Paris in Orthopedic Surgery. (4) Specimens of Tuberculous Bone-disease, by Dr. S. L. McCurdy, of Pittsburg; (1) The Rawhide Corset Spinal Brace. (2) A Review of the Treatment of Hip-disease, by Dr. B. E. McKenzie, of Toronto; Spasmodic Wry-neck, by Dr. T. H. Myers, of New York; title not announced, Dr. C. B. Packard, of Denver; The Deformities Produced by Acute Inflammatory Lesions in Bone, by Dr. Roswell Park, of Buffalo; (1) The Report of a Case of Congenital Dislocation of the Shoulder, and an Operation for its Relief. (2) The Treatment of Fracture from an Orthopedic Standpoint. (3) How the Orthopedic Surgeon Should Treat Abscesses (tuberculous and purulent), by Dr. A. M. Phelps, of New York; The President's Address, by Dr. John Ridlon, of Chicago; One-thousand Cases of Lateral Curvature of the Spine Treated by Posture and Exercise, by Dr. Bernard Roth, of London, Eng.; The Anterior Spine-brace, by Dr. J. C. Schapps, of Brooklyn; Some Considerations of the Mechanical Arrangements Around the Hip-joint, by Dr. H. M. Sherman, of San Francisco; several papers, titles not announced, Mr. Noble Smith, of London, Eng.; A Case of Double Congenital Knee-luxation, by Dr. H. L. Taylor, of New York; (1) Pain in the Back. (2) Metatarsalgia. (3) The Use of Mechanical Support in the Treatment of Scoliosis, by Dr. L. A. Weigel, of Rochester; Observations on Weak-foot, with particular reference to its Predisposing Cause, its Diagnosis, and its Cure, by Dr. Royal Whitman, of New York; A Report of Seventy Cases of Splicing of the Tendo-Achillis, by Dr. H. Aug. Wilson, of Philadelphia; The Treatment of Scoliosis by Light Gymnastic Exercises, by Dr. J. K. Young, of Phila-

Papers have also been promised, if there is time for their reading, by Drs. L. L. McArthur, Weller Van Hook, Robert Tilly, Joseph Zeisler, H. P. Woley, and other gentlemen of Chicago, but these papers will not be presented except by vote of the Association.

The Colorado State Medical Society held its twenty-fifth annual convention in Denver, June 18th, 19th, and 20th, and elected the following officers for the ensuing year: President, Dr. I. B. Perkins, of Denver; First Vice-President, Dr. A. J. Robinson, of Aspen; Second Vice-President, Dr. Lee Kahn, of Leadville; Third Vice-President, Dr. Mary Ambrook, of Boulder; Corresponding Secretary,

Dr. E. R. Axtell, of Denver; Recording Secretary, Dr. Laura Liebhart, of Denver; Assistant Recording Secretary, Dr. H. H. Bucknum, of Denver; Treasurer, W. F. McClelland, of Denver. The meeting was the largest and best the society has ever held. Over a hundred-and-fifty members were present. Sixty papers were presented, and addresses were delivered by Professors Ridlon and Vaughan. A number of social features were introduced, and the meeting was voted a success. Sixty-two new members were added to the membership list.

Meetings of State, National, and International Medical Societies:

Meets.		Next meeting.			
American Dermatological	Sept. 17, 1895	Montreal, Can.			
Association. American Electro-Therapeutic Association.	Sept. 3, 1895	Toronto, Can.			
American Medical Associ-	May 5-8, 1896	Atlanta, Ga.			
American Microscopical So- ciety.	August 21-23, 1805	Ithaca, N. Y.			
American Ophthalmological Society.	July 24, 1895	New London, Conn.			
American Orthopedic Asso- ciation.	Sept. 19-21, 1895	Chicago, Ill.			
British Medical Association.	July 30-Aug. 2, 1895	London, England.			
Canadian Medical Association.	Aug. 28-30, 1895	Kingston, Ont.			
Idaho State Medical Society.		Boise City, Id.			
Illinois State Medical So- ciety.	May 19, 1896	Ottawa, Ill.			
International Congress of Dermatology.	August 4-8, 1896	London, Eng.			
International Congress of Gynecology & Obstetrics.	September, 1896	Geneva, Switzerland.			
International Congress of Hydrobalneotherapy.	1895	Ostend.			
International Congress of Otology.	Sept. 23-26, 1895	Florence, Italy.			
International Medical Con- gress.	August, 1896	Moscow, Russia.			
Medical Association of Georgia.	April 15, 1896	Augusta, Ga.			
Medical Association of the State of Alabama.	April, 1896	Montgomery, Ala.			
Medical Society of the State of New York.	Jan. 28, 1896	Albany, N. Y.			
Medical Society of Virginia.	September 3	Wytheville, Va.			
Mississippi Valley Medical Association.	September 3-6	Detroit, Mich.			
New Mexico Medical Society.	July 10, 1895	Las Vegas, N. M.			
New York State Medical Association.	October 15-17	New York City			
Ohio State Medical Society Texas State Medical Society.	May 27-29, 1896 April, 1896	Columbus, O. Ft. Worth, Texas.			
Tri-State Medical Society of Illinois, Iowa, and Mis- souri.	Oct. 1-4, 1895	Des Moines, Iowa.			
Vermont State Medical Society.	October 10, 11	Burlington, Vt.			
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Medical Director Albert C. Gorgas, U.S.M., died June 29th, at Germantown, Philadelphia, at the age of sixty years. He entered the navy as an Assistant Surgeon in 1856. From 1889 to 1893 he was in charge of the Naval Hospital at Philadelphia, and after this was on duty at the Naval Museum of Hygiene at Washington.

The Medical and Surgical Reporter has removed from Philadelphia to New York.